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A REPORT ON THE ALBERTA EARLY CHILDHOOD EDUCATION STUDY

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BEFORE SIX

A Report on the Alberta Early Childhood Education Study

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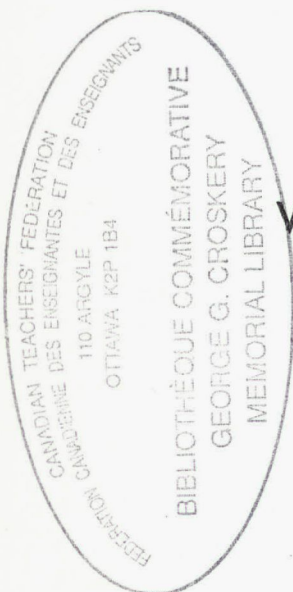
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November 1, 1966

W. H. W.

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measures of intelligence. Torrance states that according to recent research many things, though not all, can be learned more effectively and economically in creative ways than by reference to authority. His own studies, as well as those by Rossman (1931) 3 decades earlier, have shown that the child's ability and desire to manipulate his environment plays an important part in creative learning. Accordingly, if one wishes to encourage inventiveness then it is necessary to keep alive in the child the natural inclination to manipulate and experiment with objects and ideas. For as Torrance has pointed out:

Perhaps the biggest task in nurturing creativity during the pre-school years is to keep alive fantasy until the child's intellectual development is such that he can engage in a sound type of creative thinking. (p. 20).

Evidence suggests that creative imagination during early childhood seems to reach a peak between 4 and 4½ years of age and is followed by a drop around age 5 or 6 when the child enters school (Andrews, 1930). Some authors like Torrance (1963) and Burgess (1965) suggest that this drop is cultural rather than developmental since when beginning school many children are often restricted in their environment and must meet the demands of the teacher. If this is so, then it constitutes still further evidence of the important part that early environment plays in developing a child's creative abilities.

Language Development

While the exact role of language in the development of intelligence is not clearly understood and conflicting views are held (Vygotsky (1962), Lenneberg (1964), and Bruner, (1964), all experts agree that early language development facilitates later development of necessary conceptual systems. According to Almy's (see Burgess, 1965) interpretation of Piaget:

Once he has begun to use language, the infant, now a toddler, enters a new stage of development during which his ways of thinking become progressively more like those of the adult. Partly, this is a result of the child's becoming more and more adept at acquiring labels for experience, and also at matching new experiences to already available labels, that is, at forming concepts. (p. 33).

This labelling of objects and relationships is also stressed by Fowler (1965) in his theory of intellectual development.

In this book **Language and Thought**, (1964), Carroll asserts that one function of language is to provide a cue for the formation of a new concept. To illustrate, he claims that if an adult were to tell a child there is such a thing as a platypus, this alerts the child to the existence of a possible class of experience. Grammatical construction allows one to learn, remember, and manipulate more and more complex concepts. For as Applegate (1961) reminds us:

We assume that the development of grammar arises from the economy of coding words into classes. It would tax the capacities of any mind immensely to remember the millions of utterances heard; if the words are coded into grammatical classes it is not necessary to store specific utterances as such. If class probabilities or rules rather than specific sequences are remembered, new sequences can be generated. (p. 120).

A number of studies have shown that the amount and kind of verbal stimulation affects speech development. Irwin (1960) found that systematic reading of stories to young children for no more than 15 minutes a day made a measurable difference in speech production. Milner's (1951) study points to the importance of language

stimulus in the family. She found that children who scored high on language tests at the grade I level had participated much more widely in adult family conversations and received more overt demonstrations of affection.

Dawe (1942) studied the effect of a training program in understanding and use of language on 11 pairs of matched orphanage children. Significant gains in all language measures except intelligibility of speech and complexity of organization were reported for the experimental group. After observing children in a kindergarten for disadvantaged children having much difficulty through lack of names, labels and descriptive words, Robinson and Makerji (1965) decided to set up a special program for such children. The program was constructed to emphasize language growth, concept development, and symbolic representation. The results of the study confirmed the value of such a program. These investigators concluded that:

Unless these children can enlarge their vocabularies through personally gleaned information, there seems little possibility for real progress in understanding. (p. 142).

It is clear from this brief look at the study of language acquisition that the years of early childhood are supremely important. One may draw the inference that a child learns what he hears, and the more language he hears the better are his chances for developing facility with language which in turn facilitates cognitive processes. (Burgess, 1965, p. 42).

Teacher-child interaction in speech is most important for the encouragement of both language and concept formation. The teacher is not only a **model** for vocabulary sound and grammar, she is also a **stimulator and reinforcer of cognition**. (Burgess, 1965, p. 42). However as Haupt (see Burgess, 1965) points out teachers are not always aware of the educative value of verbal interaction.

A rationale for greater attention to language development in programs for young children is given by Deutsch (1963). He states:

Language is probably the most important area for the later development of conceptual systems. If a child is to develop the capabilities for organizing and categorizing concepts, the availability of a wide range of appropriate vocabulary, of appropriate context relationships becomes essential. Sometimes the most productive training can be done in the third, fourth and fifth years of life in the language area. (p. 191).

Skills Development

The question of whether or not reading should be taught in nursery school or kindergarten is open to much debate. Fowler (1962) and Moore (1963) would advocate the teaching of reading at a much earlier age than is now the practice. Durrell and Nicholson (1961) believe that many teachers have the wrong connotation for the term **teaching** believing that it means **forcing** children beyond their capacities.

They note that:

The beginnings of reading and writing need not be a chore for children. In every aspect of the program, interest should be kept high, meaning emphasized, and delight in learning encouraged. (pp. 267-269).

Angus (1962) studied the effects of systematic reading readiness instruction, as opposed to incidental reading instruction at the kindergarten level and concluded that there was some indication that systematic instruction may be more effective. She recommends a regularly scheduled period of systematic readiness instruction daily at the kindergarten level.

Results of studies by Carroll, Hallwell and Stein, and Hampleman have been summarized by Smith (1965). She concludes that children are not at an advantage academically because of earlier structured reading instruction. She claims that these studies show that, while the early reader appears superior during grade I to the child who could not read on entering school, this advantage was often lost by grade III. Each of these investigators found that children who were given formal reading instruction early were significantly poorer in achievement by grade VI than those whose formal reading instruction was delayed until age 6. On the other hand, children who manifest an interest in reading early, Smith (1965) maintains, should receive instruction and not be forced to wait until age 6. Dey (1960) and Durkin (1962) subscribe to this latter belief. Moreover, the results of a study by Durkin (1962) reveal that children with a low I. Q. tend to profit most from early reading instruction. Hence she argues that instead of postponing reading instruction for the slower child, an earlier start should be made at it so that his contact with reading is spread out over time.

Effective skills training in singing at an early age, and greater interest in music, were demonstrated by Jersild and Bienstock, Hissem, and Updegraff, Heiliger and Learned many years ago, according to Burgess (1965). More recently, Dubin (1946) reports being able to increase the complexity of pre-school children's drawings by a discussion technique. The paucity of research dealing with skill development in the fine arts areas makes it difficult, however, to reach any firm conclusions.

SOCIAL AND EMOTIONAL DEVELOPMENT

Emotional development is a complex process which eventually leads to the formation of an individual's personality. Personality itself is a broad concept and is used by Mussen (1963) to mean the organization of an individual's pre-disposition to behavior and his unique adjustments to his environment. Jersild (1954) points out that some aspects of personality are observable and measurable like aptitudes and habits, while others like motives and attitudes can only be inferred. Social development refers to an equally complex process whereby the individual learns to interact with others in his environment. In so doing he acquires the culture of his group and becomes socialized. Socialization like personality has its overt and covert aspects. The structure of the social groups and friendship patterns are readily observable, as are the individual's interactions with his family, peers and superiors. However, a person's social attitudes and opinions of others can often only be inferred from his speech and behavior. Mussen (1963) draws attention to the interrelatedness of social and emotional development. He points out that social development is rooted in personality development which itself is an outcome of certain kinds of social learnings and socialization experiences that motivate the individual to behave as he does.

Influence of Early School Attendance

Tyler and Whisehunt (1962) attempted to assess the effects of early school attendance on social development by studying changes in motivational characteristics of young children during 3 months attendance at a college-operated pre-school for 2 consecutive years. They identified 5 drive characteristics and classified each child's actions in terms of one of these. It was concluded that motivational changes during pre-school attendance are confined to those behaviors associated with independent activity, and seeking help and assistance from others. However, these children were

not compared with a non-attending group, so the changes observed may simply have been part of growing up.

In her comprehensive review of research in this area, Swift (1964) dismisses the results of many studies where the effects of maturation cannot be ruled out in the absence of either a control group or standardized norms for evaluating social development. She does, however, cite 6 studies in which adequate control or contrast groups were used. Findings of better social adjustment were reported in 4 of these studies (Walsh, Cushing, Hattwick, and Allen and Masling), while 2 reported otherwise. (Bonney and Nicholson, and Brown and Hunt).

In total, the research of this type offers slight, and rather conflicting, evidence about the impact of early school attendance upon social and emotional development.

Personal Security

Researchers concerned with emotional development at the early childhood level have hypothesized that adverse effects will result from a child's separation from his home. Studies by Glass (1949) and Heinecke (1956), however, indicate that no ill-effects result from such separation. Deutsch (1946) after examining the outcomes of a number of studies on the effects of Operation Headstart programs on the emotional development of young children from culturally deprived homes, concluded that they were most helpful in improving personal security. The children involved seemed to develop an adequate self-concept with feelings of self-worth and confidence. That similar benefits are derived by mentally retarded children from early schooling has been noted by Kirk (1958).

As Rose (1962) point out, there are a number of complex factors—physical, social, emotional, both past and present—which contribute to the meaning of separation for a particular child, and except for the culturally disadvantaged and mentally retarded it is difficult to generalize conclusions.

Child-Teacher Relationships

An important factor affecting the emotional and social development of nursery school, kindergarten, and primary children is their relationship with their teacher. Sears and Dowley (1963) concluded from a number of studies (Hartup and Keller, Rosenblith, Bandura and Huston, Milner, Gewirtz, Gewirtz and Baer, and Gewirtz, Baer and Roth) that warmth and nurturance given by adults to young children clearly affect their performance on concept formation, memory, and maze performance tasks, as well as their imitation of the adult's irrelevant behavior. Nurturance and subsequent withdrawal of nurturance appears generally to have the greatest impact. Swift (1964) suggests the reason for this is that the child strives to regain the adult approval of which he was temporarily deprived. However, the results of an investigation by Hartup and Himeno (1960) have shown that withdrawal of adult attention may also cause frustration in the child which can lead to aggressive instead of attention or approval seeking behavior.

Reichenberg-Hackett (1962) examined the relationships between a number of teacher characteristics and various aspects of child development in 10 nursery schools. It was concluded that the personality of the teacher was the most important single factor in shaping the child's nursery experience. Of importance as well, but to a lesser degree, was the teacher's professional and socio-economic background.

A study by Thompson (1944) on the effect of the amount of involvement of the teacher in the children's activities showed significant superiority on measures of social and emotional development for the group whose teacher became highly involved with her children. Thompson concluded that the stand **back policy** then in vogue, while it did not hinder intellectual growth, might not be so effective in promoting emotional and social development as a policy of interaction with the children.

Several studies have attempted to investigate the imitative behavior in children. Bandura, Ross, and Ross (1961) demonstrated that models influence the transmission of socially significant behavior by showing that the behavior of children increased in aggressiveness after observing teachers, both live and on film, who displayed aggressive behaviors while teaching. It was also found that children's moral judgments can be altered by observing models (Bandura and MacDonald, 1963). The investigations of Bandura and Huston (1961) discovered that children tend to imitate a nurturant adult's behavior more than that of a cold, aloof adult, but aggressive behavior was imitated regardless of nurturance. Rosenblith (1959) concluded that all adult behaviors were imitated by children, not merely those relevant to the task at hand. This was found to be especially true of girls.

Child-Child Relationships

Of equal importance are child-child relationships. The beginning school child finds his social world considerably expanded, and factors such as social interaction with peers, social acceptance and group identity become important. And as Flavell (1963) points out, with support from Bruner (1959), it is only when the child is capable of relating to the world outside himself that he becomes capable of objective thinking and problem solving.

Research has revealed (Swift, 1964) an increase in all forms of social interaction with increasing chronological age in the early years. In addition, the child who ranks high with respect to one area of social activity is likely to rank high with respect to other types of social behavior, and to also rank among the children showing the greatest number of contacts.

Social acceptability is an important determiner of child behavior. As Lorber (1966) has indicated, there is strong evidence that: (1) children of high social acceptance tend to possess durable, positive personality characteristics while those of low social acceptance tend to lack them (Feinberg, Smith and Schmidt, Goertzen, Gronlund, and Gronlund and Anderson); (2) children of high social acceptance tend to actively participate and co-operate socially, with a tendency to conform, while those of low social status do not. (Bonney and Powell, Elkins, and Jennings); (3) children of low social acceptance tend to display undesirable characteristics such as showing-off, annoying others, restlessness, feelings of inferiority, nervousness, and emotional instability (Forlano and Wrightstone, Jennings, and Truddenham). Lorber's own recent study gives additional support to the third generalization. The evidence which he accumulated may be interpreted as showing that the absence of social acceptance is influential in the determination of undesirable behavior rather than the converse. Thus a child who turns to disruptive behavior because of his exclusion from the group, should be guided toward resolving his social problems and toward more constructive ways of reacting to frustration. Disruptive attention-seeking actions, according to Lorber, produce, at best, merely insignificant and fleeting moments of social recognition, and in long range perspective, impair the positive development of rewarding interpersonal relations and satisfactory social living.

Studies of race awareness in young children offer further insights about social acceptance and the development of child-to-child relationships. Taub (1963), Landreth and Johnson (1953), and Neidell (1966), found that young children are aware of racial differences and with greater age comes keener perception. Young children often have very narrow and distorted views of other races due to home experience. Neidell (1966) claims if such experiences are not extended with well-planned meaningful experiences, they tend to become entrenched and deeply-rooted stereotypes. When this happens interaction with children of other races is seriously impeded.

Personality Stability

Today much is being heard of the **stability hypothesis** in personality theory which asserts that an individual's personality stabilizes at a very early age and remains largely unchanged throughout subsequent years. Support for this hypothesis has emerged from the work of such people as Bloom (1964), Stendler (1964), and Martin (1964).

In a relatively brief longitudinal study, Martin (1964) analysed the social motives of 53 middle class children during each of 4 semesters of nursery school. He concluded that even in this active and changing period in the life of a child a pattern of individual social behavior that is strikingly unchanging emerged. Kagan and Moss (1964) found that for some children certain behavioral tendencies crystallize during the age span of 6 to 10 years, while research cited by Emmerich (1964) supports the belief that individual differences in basic personality attributes are fairly well established by age 6. Another investigator (Bloom, 1964), concludes that the **half-development age**—when 50 percent of the individual difference variable is stabilized—occurs by about the age of 3 for aggression in males, age 4 for dependency in females, and age 4 for intellectuality in both sexes.

Although recent evidence of early determination of personality may seem impressive, there are some grounds (Jack (1934), Page (1936), Mummery (1947), and Allen et al (1964) for believing that personality ordinarily remains open to change over extended periods. A study undertaken some time ago by Chittendon (1942) demonstrated successful training procedures to increase co-operative behavior on the part of dominating children by a series of stories with dolls. Keister (1937) showed how children with initially very immature and undesirable responses to failure could be taught to respond in more mature and effective ways.

On balance, it appears that the stability hypothesis is credible. A degree of crystallization of certain aspects of social and emotional development does tend to occur in the early years. Unless there is exposure to a different and significantly more powerful environment during adolescence or adulthood the earlier characteristics will likely persist (Bloom (1964), and Bonney and Nicholson (1958).

PHYSICAL DEVELOPMENT

Physical growth and development, formerly thought of as a gradual unfolding process and largely isolated from the other areas of child development, is now being seen as part of the total growth of the child. This has given rise to the **total growth** concept which asserts that physical development is the controlling factor in the overall development of the individual (Hunt, 1961). The studies of Piaget gave impetus to this concept when he advanced his theory of intelligence as **internalized action**. This means that the child's percepts and concepts of the world derive largely from his

contact with and manipulation of various physical things. Thus the abstract mathematical concept of addition is, for example, the direct result of the actual physical action of combining groups of objects such as blocks, pencils, or marbles which the child has performed in the past. Tanner (1961) points out a further relationship between physical and intellectual growth. His evidence reveals that children who are physically advanced for their age do, in fact, score higher in mental ability tests than those who are less mature but of the same chronological age. Krogman (1955) also found a positive relationship between rate of progress in physical growth and rate of progress in social and intellectual maturity, as well as emotional stability. Research workers appear to be in substantial agreement that maturity and experience are not synonymous but maturity is necessary if various experiences are to register. Thus a child who is retarded in maturation acts like a younger child because experiences normal for his age have not been comprehended.

If the above theories and findings are accepted, then the following views of Tanner (1961), which are supported by empirical evidence, are of great importance. He maintains that children of today mature much more quickly than in previous years. Moreover, he claims children at all ages nowadays are bigger than they were 50 or even 20 years ago. He advances a number of reasons for this including improved nutrition, more healthful homes, and increased mobility which permitted more marriages outside the home community. Hence a child of 5 now is in all physical and probably a good many psychological effects equivalent to a child of 6 of 30 years ago. This **secular trend in maturation** as Tanner calls it is, in his words, "one of the most striking findings of human biology in recent years and has far reaching effects." (p. 12).

Brain Damage

The total growth concept is basic to the work of Kephart (1960) with brain-damaged children. He devised a number of activities for manipulating the muscles which such children were incapable of controlling due to faulty neurological connections. In time the neurological connections became better established and the children were then able to control their muscles in a normal manner. Not only did these children learn to sit up, crawl, and walk, but they also started to talk, and it was discovered that many of them were of average intelligence. These results take on greater significance when the incidence of brain damage among young children is considered. According to estimates of Pasamanick (see Strother, 1963) 10 percent of all full-term births result in some degree of brain damage. Beck (1961) claims that 60 percent of all educable retarded children in the school population are brain damaged rather than mentally retarded, while Di Leo (1965) suggests that there are, in fact, many cases of brain damage so slight that they cannot be detected, as yet, by neurological tests.

Rutherford (1965) used Kephart's apparatus and exercises with a group of normal kindergarten children and found that such exercises made them more ready for school learning. He concluded that there is a positive interaction between physical and intellectual development, and that specific training in motor control, hand-eye co-ordination, and other skills basic to learning is beneficial for normal children.

Motor Development

In her summary of research, Gould (1966) states that rhythmic ability contributes to the efficiency of a child's performance by permitting him to anticipate probable combinations of stimuli and/or to make ready adjustments to new patterns.

Her own study found that rhythmic ability—the ability to reproduce or match patterns of sounds, forms or movements—has significance for success in reading, and may be useful in predicting and diagnosing reading problems. In the realm of social growth, Kaye (1966) observed that participation in rhythmic activities and creative body movement sessions fostered self-confidence and increased ability to function co-operatively.

Motor skills are amenable to training. A study by Moustakas (1952) showed that children in nursery school were superior in motor co-ordination over a group who did not attend. This superiority was attributed to the increased opportunity to participate in activities requiring the use of motor abilities. Training of handicapped students between the ages of 5 to 15 years in making rhythm responses to music resulted in improved performance by the experimental group when compared with a control group who had received no such training. (Wight, 1937).

Visual Development

The normal eye is physically ready to be used in the process of reading at the age of 12 months according to Shaw (1964). He hastens to add, however, that many other factors need consideration before the decision to start teaching the child to read is reached. He also indicates that the incidence of visual abnormalities in young children is high and stresses the importance of early discovery and correction especially during the early years. That this is indeed a critical period in the maturation of the eyes is attested to by Deutsch and Deutsch (1966). They report that normally the fusion of the image from each eye into a single image is imperfect at birth, begins to develop at age 2, and is complete by age 6. If as happened in 200 of 5,000 adults examined, this development fails to occur by age 6, irreparable damage has been done and the individual completely loses the sight of one eye.

MacAulay (1965) concluded from the findings of her study that the ability to hold in mind the wholeness of a figure while attending to its parts is a prerequisite for successful delayed recall of words taught by the visual method. Similar conclusions that visual skills—acuity, discrimination and memory—respond to training were reported by Radaker (1962). Although Gorelick (1965) found that visual form training did not improve word recognition, King (1964) discovered that visual discrimination training in which sound and meaning were associated with the printed symbol, greatly facilitated learning to read. A later experiment by King (1965) in Alberta, using a variety of multi-sensori cues, also established the advantages of training in visual discrimination.

Auditory Development

Research indicates that the maturation of auditory skills is a developmental fact and must be given consideration when planning school programs for young children. Wepman (1960) found that auditory perception develops at its own rate and may continue to do so through age 8. Results from a study by Chall, et al (1963) showed that auditory blending ability is positively correlated with oral and silent reading ability. Similar conclusions were drawn from studies by Thompson (1963) and Reid (1962). Chall (1963) suggests that children with high intelligence who have extreme difficulty in blending sounds, and in word recognition, may suffer from a neurological defect or a lag in development.

Kinesthetic Development

The sense of touch should not be overlooked as an avenue of learning. This mode of learning is well popularized in the Montessori method. Shea (1958) maintains that much learning takes place by kinesthetic means and that as much use should be made of this mode of learning as of the visual and auditory from the very beginning of formal instruction. In the field of reading, Schonell (1952) and Hildreth (1963) recommend early writing as an aid to reading to reinforce word recognition and discrimination.

Speech Development

The course of normal speech development in children has been fairly well charted by investigators such as Davis (1937), Templin (1957), Lewis (1959) and Winitz (1959). It is readily apparent that much of this development occurs during the early childhood period of life. It is for this reason that many speech experts recommend delaying any speech correction programs until after the child has reached age 8 in order to permit him to grow out of what speech inaccuracies he can. (Eisenson and Ogilvie, 1963). On the other hand, much can be done before age 8 to stimulate speech and language development. Studies by Byrne (1960), Somers (1961), and Yonemura (1966) with primary, kindergarten and nursery school children have shown the extent to which language at these levels can be improved through instruction.

Modes of Perception

Jenkinson (1962) defined perception as the process of organizing and interpreting the sensations the organism receives through the senses from external and internal stimuli. She claims there is some evidence of the existence of characteristic styles or modes of perceiving among children. These different modes or sets may be specific to a particular situation or to the particular type of material perceived. Vernon (1952 and 1962) has also been led to the conclusion that different modes of learning exist.

In a study to predict reading ability at kindergarten level, De Hirsch (1962) tried to get an impression of each child's maturational pattern in the various modalities. She found a striking difference in children's performances from month to month between the age of 5 and 6 before they had been exposed to formal learning. It was also discovered that some of the children's maturational patterns were quite irregular in that they were well advanced in one modality and rather retarded in another. Dr. Hirsch concluded that there are many children for whom differentiated sensory modality instruction would be most beneficial. Similar conclusions were reached by MacAulay (1965) and Mills (1956) following their experimental studies.

Sex Differences

There is evidence from a number of investigations that sex differences in rate of development do exist. The Gesell Institute, whose readiness tests are described by Ilg and Ames (1964), estimate from clinical experiences over many years that girls have a 6 month advantage in maturity over boys. Research evidence from the Weston Study, described also by Ilg and Ames, tends to confirm this belief.

MacAulay (1965) recorded significant differences between boys and girls in her investigation of modes of perception and word recognition. Gould (1966) in her study found that girls were superior to boys in certain motor skills. Conflicting findings were reported by Brace (1963), Coward (1940), and Martin (1951) regarding

sex differences in the development of number concepts in children. Yet, Waetjen and Grambs (1963) believe that the school program must become much less **sex-neutral** than it now is, and cite a wide variety of research findings on specific sex differences to support this belief.

EARLY EDUCATION AND SUBSEQUENT SCHOOL ACHIEVEMENT

Since the establishment of the first kindergarten, a change has taken place with respect to the role it plays in our educational system. In the latter part of the nineteenth century, and the early part of the twentieth, the kindergarten was considered to be an entity in itself. That is, even though kindergarten classes were sometimes held in the regular school building, little if any relationship was seen between the function of the kindergarten and the basic school program. More recently, however, kindergarten education has come to be viewed as an integral part of the total educational program provided for the children and youth of our society.

Research in the 1920's drew attention to the importance of kindergarten education in relation to later school adjustment and progress. More recently, numerous research workers have endeavoured to ascertain the effects of kindergarten experience on the child's subsequent school career. These studies have investigated the relationship of a number of factors in the kindergarten environment and various aspects of later school achievement including academic knowledge, work habits, social acceptance by peers, and adjustment to school life. What follows is a summary of the most important recent research in this area.

Kindergarten and Grade 1

Pratt (1949) hypothesized that kindergarten children have more success in reading at the end of the first grade than children who do not attend kindergarten. Readiness tests given to 226 children, 72 of whom had attended kindergarten, and 128 who had not, showed that pupils with kindergarten experience were significantly superior to children without such experience. Pratt also administered the **Gates Primary Reading Test** at the end of grade 1 and found that by that time, the kindergarten children were still superior to the non-kindergarten group. Similar results were reported from a study by Fast (1957) in which she administered readings tests at the beginning, middle, and the end of the grade 1 year to 134 children, who had spent a year in kindergarten, and 46 otherwise comparable children who had not gone to kindergarten.

A study by Olson (1962) attempted to investigate the effect of one year of non-public school kindergarten experience on various phases of development of pupils in the first grade. The phases of development studied were academic readiness in areas of reading and number; total readiness as measured by the **Metropolitan Reading Test**; maturity as rated by teachers and parents; height and weight at the beginning of the school year; citizenship grade after the first 6 weeks of school and average for the year; effort grade after the first 6 weeks and average for the year; scholarship average for the year; and academic achievement in the areas of reading, number, and total achievement. An experimental and control group were used and were matched on the basis of sex, age, position in the family, occupation of the father, and whether or not the mother was working or was at home. When the intelligence quotient was held constant, it was observed that the children who had attended kindergarten were superior to the non-kindergarten children in their total readiness, and maturity as rated by the teacher. No significant differences between groups were found for the other phases of development examined.

A comparison of the work of first grade pupils who had attended kindergarten with those who had not, was also the purpose of a study conducted by Bergamini and Swanson (1954) with a control and an experimental group, each of which contained 30 children. These pupils were matched in terms of I. Q. and home-community educational opportunities. The **Metropolitan Readiness Test** was given in October, January, and April of their grade I year. Among the facets of growth tested were linguistic attainments and aptitudes, visual and auditory perception, motor skills, and ability to follow directions. It was discovered that the children who had attended kindergarten made higher scores in number work and copying at 2 out of 3 test periods, while the non-kindergarten group had consistently higher scores each time tested in word meaning and word comprehension although not in word usage. In speculating about the possible reasons for this latter finding, the investigators suggest that it may have occurred because the non-kindergarten child in the environment of his home and neighborhood a year longer than his kindergarten-attending partner could carry on spontaneous conversation all day with adults and playmates. A study with somewhat similar purposes was conducted by Haley (1957). She attempted to determine: (1) whether kindergarten education has a beneficial effect on motor co-ordination as related to letter writing and auditory and visual perception of letter, and knowledge of letter names and sounds; and (2) whether these abilities have a definite relationship to increased learning rate. The subjects used were 936 grade 1 pupils (628 with kindergarten experience and 308 without such experience.) The results showed that the kindergarten group were significantly superior in all abilities except matching lowercase letters, capital letters, commas, and words shown.

Haines (1960) cites the results of a study conducted by Trusal who paired by mental age 100 grade 1 children who had had kindergarten experience with 100 children without such opportunities. He noted that teachers did not consider those with kindergarten experience superior in social readiness to those who had not attended kindergarten. On the other hand, Trusal found that children with kindergarten experience excelled in number achievement but could discern no significant differences between the 2 groups in grade I reading achievement. However, the kindergarten group showed marked gains over the non-kindergarten group in total average achievement. The findings of a study by Fox (1964) failed to substantiate either of her hypotheses that kindergarten experience would contribute to the child's readiness to do school work, and that it would lead to greater achievement in the primary grades. However, Dey (1960) concluded from her study that if the school's function is to establish a learning environment which will provide for the development of essential skills commensurate with children's needs, and which cannot be adequately offered in the home, then:

Children who have kindergarten experiences or special school readiness activities tend to be more successful in meeting the tasks which they encounter upon admission to the first grade and formal instruction. (p. 125).

For this reason Dey recommends that all children who have attained a chronological age of 5 years be admitted to school. (p. 129).

An opinionaire-type of study by the Primary Committee of the Association for Childhood Education in the United States is reported by Hammond (1957). A questionnaire was used to elicit from first grade teachers the extent to which they observed differences between kindergarten and non-kindergarten pupils in social and emotional adjustment, physical development and health, readiness for learning, and in the parents' relationship with the school. Generally, it was revealed that first grade teachers felt that the kindergarten experiences were most worthwhile. In

one section of the questionnaire the teachers were asked what they thought had been some of the greatest values of kindergarten experience for children. Many of the replies centered on such things as increased readiness for academic learning, greater enthusiasm for school, improved relationships with other children, better care of materials, and quicker adjustment to regular school life.

The results of a questionnaire sent by Olsen (1955) to parents in the Edmonton, Calgary, and High River areas of Alberta showed that they too thought that pre-primary education had been of value to their children. They reported that it helped the child entertain himself, get along with other children, become interested in school, enjoy music and singing, respond to rhythm, respect the rights of others, and solve his own problems. These same parents, however, doubted that their children had been helped to use language more fluently or to understand the community better. This study also sought an evaluation of pre-primary education from grade I teachers in the same districts. It was found that almost 70 percent of the teachers returning questionnaires believed that the programs had been beneficial and were in favor of them. Similar findings emerged from a directed self-survey in the Winnipeg Public Schools (1948). About 75 percent of the grade I teachers reported that they felt that kindergarten educated children adjusted more readily to school work. In addition, the survey showed that both teachers and principals believed that the kindergarten children were well advanced physically, intellectually, socially, and emotionally. About 80 percent of the teachers also reported that records sent on from kindergarten assisted them in understanding the child and placing him at an appropriate level. There was less consensus among teachers, however, regarding the manner in which pupils entering grade I from kindergarten accepted the normal school routine.

Koshuk (1947) investigated the effect of nursery school experience on 500 children in terms of the child's reported adjustment at home and at school. An analysis of the developmental records, and of the reports of parents and teachers, showed that about 80 percent of the children were considered to have made good or excellent general progress especially in social or emotional growth. She concluded that, for the community studied, the nursery school-type programs had reduced tensions, lessened friction in the home, improved security in the non-home situations, thereby benefiting the children and strengthening family living.

A certain amount of conflict is evident in the findings of the foregoing studies regarding the effect of kindergarten attendance upon later achievement in grade 1. This is especially so in academic areas. However, there appears to be some measure of agreement that social and emotional advantages do accrue to the child who has attended kindergarten when compared with one who has not had this experience.

Kindergarten and the Elementary Grades

Numerous studies have undertaken an assessment of the long-term influence of kindergarten education. Such studies have, typically, compared the performance of kindergarten and non-kindergarten children after a few years of elementary schooling. A number of the early studies of this type have been reviewed by Haines (1960) and are, therefore, not included in this report.

Peters (cited by Haines, 1960) reported a study in which 187 pupils who had completed grade V, and had attended kindergarten, were matched in intelligence with an equal number who had not attended kindergarten. His findings showed that children with kindergarten experience made as good progress as older children without such experience. He concluded that kindergarten educated children will proceed faster than children without kindergarten education of the same age and intelligence.

A study by MacLatchey (cited in Haines, 1960) showed that children with kindergarten experience began grade I with an advantage in reading. This advantage decreased throughout grade I and in grade II the group showed no significant superiority in reading skills. However, by the end of grade III the kindergarten group once more advanced in reading over the non-kindergarten group. Contrary results were observed in a study by the Detroit Board of Education (cited in Haines, 1960) which revealed that kindergarten training had little or no effect upon marks received in grade III, although the kindergarten educated children tended to progress faster through the grades.

In Calgary (Safran, 1953) it was observed that kindergarten children in grade I were superior to non-kindergarten children in reading, arithmetic, and final grades. They were also rated socially superior. In grades II to IV, however, academic, social and emotional differences were minimal, although in all four grades kindergarten children were more normally placed with respect to age per grade than non-kindergarten children.

Nearly 2,000 children in grades I to VI, half of whom had received kindergarten training, were used in a study by Goetch (cited in Haines, 1960). The two groups were compared in terms of estimates of achievement, estimates of social rank, results of standardized mental and achievement tests, and measures of school progress obtained from school records. Even though the kindergarten group was chronologically younger than the group without kindergarten, the former made higher scores on a number of achievement and mental tests. Moreover, the non-kindergarten children evidenced a higher incidence of retardation in grades I to VI.

A somewhat similar study was conducted with 22,298 primary children in grades I to III, inclusive, in the public schools of Vancouver and Greater Victoria. (British Columbia Department of Education, 1958-1959). This rather large-scale investigation made comparisons with respect to the following variables: report card ratings of teachers on work habits, general behavior, and health habits; forced ratings by teachers of the adaptation of pupils to school; mental ages of pupils at the grade II level in Great Victoria only; and acceleration and retardation figures for all primary pupils in both metropolitan areas. The comparisons indicated that in grades I to III, inclusive kindergarten children were rated higher than non-kindergarten children in work habits, general behavior, health habits, and adaptation to school. Girls were generally rated higher than boys, and private kindergarten children higher than public kindergarten pupils. Analysis of the data for grade II pupils in one school district revealed that all pupils had approximately the same mental age, but differed in average I. Q. in the following descending order: private kindergarten, public kindergarten, non-kindergarten. The average scores of the same pupils on standardized tests of reading comprehension, word meaning, spelling, and arithmetic ranked the pupils in a similar order. However, in the average and high mental age groups, private kindergarten children achieved best, whereas in the low mental age group public kindergarten children tended to do better. Little acceleration was evident, but what little did exist favored private kindergarten pupils. Similar to the findings of Goetch, this British Columbia study observed that retardation was noticeably lower for kindergarten children in the first two grades, particularly in the case of those from public kindergartens.

A second study conducted in British Columbia (British Columbia, Department of Education, 1959) involved the grade VII population of the Province. Half of the grade VII pupils in the Province were given the Intermediate Form T, of the **Metro-politan Achievement Test**, Partial Battery, and half were given the Advanced Form A,

of the **Metropolitan Achievement Test**. The pupils in the Vancouver and Victoria school districts were then divided into three groups on the basis of attendance at kindergarten (public or private), no kindergarten, and no information. They were further sub-divided by sex, and then into three mental age groups—high, modal, and low. The outcomes of the comparisons tended to be inconclusive because of the smallness of the samples in the 16 divisions or groups. Generally, differences in achievement among comparable mental age groups at the grade VII level were slight. Those differences which did exist, however, were significantly in favor of those children who attended kindergarten whether public or private, with those from public kindergarten having a slight advantage.

Somewhat similar findings are reported by Haines (1960) who tested 603 elementary pupils at various grade levels, matched according to I. Q., on their knowledge of reading and arithmetic in an attempt to determine the effect of kindergarten experience upon achievement in these areas. The results of the study showed no significant differences in reading scores between the group that had attended kindergarten and the group that had not. The arithmetic scores were significantly higher for the kindergarten group in grades II and V.

A recent comparative study of the academic achievement of elementary age students in the United States and British Isles seems pertinent at this point (Gibson, et al, 1965). The areas of student achievement tested were arithmetic, reading, and English usage. In view of the fact that British children begin school a year younger on the average than United States children, it was hypothesized that the former would be superior to the latter in the areas tested. This proved true in nearly all the subject matter areas through the first 4 grade levels. However, by grades V and VI, the United States pupils were achieving at approximately the same level in nearly all aspects of the subject areas tested.

A few investigators have also been concerned with the impact of early education upon subsequent attainments in the social-personal realm. For example, Zacharty (1962) attempted to determine whether attendance at kindergarten affected the achievement, social acceptance by peers, and adjustment of white and Negro children at the grade IV and grade VI levels. Kindergarten and non-kindergarten children at both grade levels were paired on the basis of chronological age, sex, race, I. Q., and approximate occupational and educational level of the father. Achievement was measured by the **California Achievement Test**. Sociometric choices for playing, eating lunch, and working in the classroom served as a basis for measuring social acceptance by peers, and Parts III and IV of the **Haggerty-Olso-Wickman Behavior Rating Schedule** were used for measuring adjustment. The results showed significant differences between kindergarten and non-kindergarten groups for fourth grade Negro children in the following areas: spelling achievement for Negro girls, social acceptance by peers for Negro boys, and adjustment for Negro boys. No significant differences were noted between the kindergarten and non-kindergarten groups for fourth grade white boys and girls, and sixth grade white and Negro boys and girls.

Allen and Masling (1957) used a near-sociometric device in an effort to determine whether kindergarten experience produced any changes that could be perceived by the child's own peers. Their subjects consisted of a control and an experimental group matched in terms of scores on the **Vineland Maturity Scale**, extent of parents' education, chronological age, and sex. No significant differences were perceived by the children's peers during kindergarten, or first grade, between those who had

attended kindergarten and those who had not attended. However, significant differences were reported in the second grade. The nursery school subjects were seen by their classmates as being more prestigious, more spontaneous, and more intelligent.

The results of these relatively long-term studies tend to be as conflicting as those which attempted to determine the effects of kindergarten experience on achievement in grade I. It should be noted, however, that while there is considerable evidence the kindergarten experience has a positive influence on various aspects of school achievement after a number of years in school, there is no evidence that such experience produces negative results.

Kindergarten and the Culturally Disadvantaged

At present much attention is being paid to so-called **culturally disadvantaged** children. There is growing awareness of the fact that such children tend to be handicapped in the sense that they lack many of the skills necessary for adjustment to, and progress in, existing school programs. In the United States in particular, numerous pre-primary programs have emerged as a means of overcoming this disadvantage. Appraisals of the efficiency of some of these programs are now beginning to appear in the professional literature.

One such appraisal is that offered by Brain (1964) of a 3 year experimental program for culturally disadvantaged children in Baltimore. In February, 1963, 60 four-year-olds were enrolled in nursery schools with a curriculum designed to develop cognitive skills, and wholesome self-concepts. It was ascertained that by June, 1963, the group had made significantly higher scores on the **Columbia Mental Scale** and the **Verbal Maturity Scale** than on the pre-program tests. Progress is also reported in discriminatory skills, acceptance and expression of new ideas, and talking and working with others. Later these children appeared to adjust to kindergarten with greater ease than did comparable children who had not had this kind of experience.

A similar program set up in New York to provide for four-year-olds is reported by Deutsch (1962). According to the report, enrichment procedures were directed toward stimulating intellectual growth in a number of different areas, with particular stress on the linguistic and conceptual. Analysis of post-test data presently available, indicates a significant difference between the experimental and control groups in performance on each of the tests in favor of the experimental subjects. It was concluded that the enrichment curriculum has been effective in maintaining or significantly improving test performance on three measures of verbal skill and cognitive functioning.

Another study using experimental and control groups has been set up by the Murfreesboro, Tennessee, schools and is reported on by Klaus (1962). This program aimed at providing special experiences during 2 pre-primary years which might contribute to better intellectual development and personal adjustment among culturally disadvantaged children. Preliminary appraisals have revealed that the initial experimental groups, at the end of the first summer school session, evidenced a mean gain of 14 I. Q. points on the **Stanford-Binet** as compared to a 2.3 point gain for the same period by the control groups. On the **Peabody Picture Vocabulary Test**, the experimental subjects made a gain of 6.6 months of mental age to 0.9 months for the control subjects. A program with similar purposes and using similar testing instruments set up in Chicago and reported on by Strodtbeck (1963) is also yielding positive results. It has been shown that a thirteen-week, purposely stimulating,

nursery school experience is able to raise I. Q. scores as much as 6 to 9 points and verbal intelligence 20 points or more.

Perhaps the biggest project concerned with the culturally disadvantaged is Operation Headstart in the United States which is a crash program to help make up deficiencies in the environment of such children so they can begin school on a somewhat similar level of experience as their middle-class peers. In reporting on the project as a whole, Hechinger (1965) notes that although assessments are as yet incomplete the trend appears favorable. Preliminary data reveal that the I. Q.'s of many rural children have been raised 10 to 15 points, and those of urban children have increased between 8 and 10 points. However, Hechinger warns of the danger of instituting a crash program without adequate follow-up. He points out that just as the I. Q.'s of these children were originally depressed by the lack of appropriate environmental stimulation rather than lack of native ability, they may quickly slide back if the gains of a summer crash program are thought of as safe and permanent.

Israel is also giving considerable attention to the plight of the culturally disadvantaged child. A continuing project has been launched to help bridge the gap for these children between their home environment and the regular grade-school environment. Smilansky (1966) in reporting on the project claims that the I. Q. of culturally disadvantaged children can be raised significantly. A series of experiments have shown that it is possible to raise the I. Q. 20 points in the pre-primary years, 8 points by grade II, and 6 points in adolescence. Moreover, it has been found that the new I. Q. level can be preserved and further improvements effected as the children proceed through school. In addition, he argues that reading skill and language standards can also be raised. A special one-year program has produced significant changes in reading comprehension and vocabulary between initially matched groups. Overall, the percentage of non-readers at the end of the grade I program has been cut in half and the number of so-called good readers substantially increased. Smilansky also cites evidence to show how the project has increased the incidence of success in external examinations for students who participated in the project.

On the basis of evidence like the foregoing, the conclusion seems warranted that pre-primary school programs specially designed for culturally disadvantaged children are proving to be of great value.

The Toronto Study

A rather comprehensive study is in progress in Toronto (Toronto Board of Education, 1964) dealing with various aspects of a Junior Kindergarten program designed for children before they attend the regular or Senior Kindergarten. Since the aspects reported on to date are somewhat different from those examined in other studies, and since the reports tend to be interrelated, they are being reviewed separately.

One aspect of the study (Toronto Board of Education, 1963) is an attempt to evaluate the effect of Junior Kindergarten attendance upon the achievement and development of children. Data on pupil profile cards, classroom drawings, and rating questionnaires were used as sources of information. Analysis of the rating questionnaires showed that children who attended Junior Kindergarten obtained higher ratings in all 5 categories of the questionnaire: mental, physical, emotional, social, and language. Socio-economic status appeared to be related to high and low ratings. However, further analysis showed the all socio-economic groups who had a year of Junior Kindergarten received higher ratings than those who had not attended Junior

Kindergarten. The analysis of drawings indicated that the children who had Junior Kindergarten experience could better relate to the world in which they find themselves. There were measurable differences in their perception of space, objects, people and color. The contribution of the Junior Kindergarten year to this difference was smaller, however, than the combined contribution of maturation and the extra year of school.

The report on another aspect of the study was published a year ago (Toronto Board of Education, 1965). It describes an attempt to identify the kinds of people, by population characteristics, who had Junior Kindergarten facilities available for their children, and the characteristics of those parents who actually sent their children to Junior Kindergarten. Typically, such facilities tend to be most readily available in areas characterized by low socio-economic and education levels of the parents. When parental characteristics and child enrolment were compared it was found that, in general, the characteristics of the population actually enrolling their children in Junior Kindergarten closely paralleled the population to whom Junior Kindergarten was not available, rather than the population to whom it was available. In other words, Junior Kindergartens are located in areas where they are most needed but the students who would likely benefit most from this experience are not in attendance.

A third phase of the study (Toronto Board of Education, 1965) was designed to discover what factors, other than Junior Kindergarten, might be responsible for the increased achievement in the Senior Kindergarten year of those children who had attended Junior Kindergarten as compared to those who had not had this experience. The following factors were found to be the major variables which may have accounted for this increased achievement: chronological age, the presence or absence of older siblings, father's educational and occupational level, and the languages of the pupil and the home.

An Interpretation

The research evidence on the effect of kindergarten and nursery school experience upon subsequent school achievement is not clear-cut. Conflicting and inconclusive findings have been noted in this report. Why is this so? And how may the evidence be interpreted? The ensuing discussion is intended to provide at least partial answers to these 2 questions.

Other persons who have reviewed the research in this area have suggested a number of reasons for the inconsistency in findings of this type of research in early childhood. For example, according to Fuller (1960) many of the studies have suffered:

. . . from the lack of careful design and statistical controls . . . In one aspect particularly, research in this area may be criticized: very few of the studies clearly acknowledge the relative extent and influence of maturation and growth as related to early childhood education program. Since the early childhood years represent a period of rapid growth, and since there is a common lack of control groups in the majority of studies, this shortcoming of the research is accentuated. (p. 395).

Fast (1957) claims that the major contaminating factor is that:

. . . it has been impossible to obtain comparable groups of children with and without kindergarten training. Where attendance at kindergarten is voluntary . . . uncontrolled differences in home background may exist between children who attend kindergarten and those whose parents neglect, refuse, or are for some reason unable to send them. (p. 52).

Following her analysis of research related to the contribution of early education to social and emotional development, Swift (1964) attributed the inconclusiveness in findings to:

1. The wide variety of social experience, guidance, and learning provided in pre-school programs.
2. Lack of control over factors operating in the decision to send a child to nursery school or kindergarten.
3. Re-examination of children in the elementary school environment occurred at a number of ages and grade levels.
4. A wide variety of behaviors were assumed to the indicators of social and emotional development.
5. The lack of validity and reliability of teacher ratings.

Still another reason for the failure of research to clearly demonstrate the superiority or lack of superiority of nursery school and kindergarten educated children at later stages in their school careers is suggested in a paper by MacArthur (1966). He notes that it may be useful to distinguish three related ways in which the term **intelligence** is used:

Intelligence A—the innate substratum of predispositions of an individual upon which intelligent behavior is developed;

Intelligence B—the present level of proficiency in intellectual functioning of an individual;

Intelligence A—the present potential of an individual for future development of intelligent behavior, assuming optimum future treatment adapted to bring out that potential.

As MacArthur notes it is upon Intelligence A, according to most philosophies of education, that effective teaching is based—in other words, teaching should be adapted so as to make the most of the present potential of the pupil. Accordingly, when prediction of achievement is involved it is important to distinguish between what Cronbach and Gleser (1965) refer to as fixed treatment and adaptive treatment. Fixed treatment conditions may be considered as those where the individual is expected to fit the training and adaptive treatment conditions where the training is expected to fit the individual.

Application of the foregoing to the kind of research reviewed in this report may be made as follows. Let us assume that there are 2 groups, an experimental and a control group; the former with, and the latter without kindergarten experience. Let us further assume that both groups are going to be examined at the end of grade VI to test the hypothesis that the experimental group will be superior to the control group in performance on achievement tests. Assuming the results show no significant differences between groups, what conclusions may be drawn? In actuality no differences between the groups should have been expected. Our school system is such that both groups received fixed treatment; that is, essentially the same material was taught to both groups throughout the first 6 grades and, consequently, it should have been hypothesized the groups would be somewhat similar in their achievement level at the end of this treatment period. Had the experimental group been given a curriculum adapted to their needs and designed to make the most of their potential after they had completed kindergarten, then after 6 years of elementary schooling it is highly probable that a difference might have been readily observed.

Attention should be drawn to the fact that few, if any, of the research studies which examined the effects of nursery school and/or kindergarten attendance upon subsequent school achievement appear to have made predictions under adaptive treatment conditions. Yet there were still some studies reported in which children exposed to pre-primary education tended to achieve better than children lacking this experience. That such evidence should exist at all may be viewed as being quite significant. For when one considers that in most elementary school classrooms all children, regardless of previous experience and variations in achievement, are fed the same educational diet it is amazing to discover that all long-term effects of nursery school or kindergarten attendance have not been completely obliterated.

Section Three

EDUCATION AND EARLY CHILDHOOD

This section is concerned with certain aspects of education in early childhood and the support which it is given. It will examine, by provinces, the financial arrangements, enrolments, curriculum materials and, where available, the recommendations of Royal Commissions. Special attention will be given to the status of early childhood education in Alberta. Also included is a brief description of programs and practices in pre-primary education in a small number of selected school systems in Canada and the United States, and excerpts from a recent statement by the Educational Policies Commission in the United States.

PRE-PRIMARY EDUCATION IN CANADA

Information regarding financial support, enrolments, and curriculum materials in pre-primary education in Canada was elicited by means of a simple questionnaire sent to each provincial department of education. The information thus derived is intended to supplement that given in the 1965 publication of the Canadian Education Association entitled **Survey of Pre-School Education in Canada**.

Financial Support

As might be expected there is considerable variation in the extent to which the various provincial authorities offer financial support for pre-primary education. The support provided is elaborated below with some differences in the degree of specificity arising from the nature of the questionnaire responses.

BRITISH COLUMBIA

In British Columbia, pre-primary programs at the kindergarten level are on a voluntary basis. They are classed among facilities that the boards may, but do not necessarily have to provide. Capital costs for kindergarten are shared on the same basis as all other school costs. School district are permitted to charge fees if they wish.

SASKATCHEWAN

Grants are available for board-operated kindergarten classes. Capital assistance is limited to new construction. Kindergarten classes are recognized at the same rate as other elementary classes. The grants will vary from approximately 15 to 60 per cent of the actual cost depending on the school system's assessment. An equalization grant is also paid, the amount of which is influenced by the certificate of the teacher. In addition to the equalization grant, a board receives a flat daily grant of \$4.50 per teacher and an average daily grant. The latter grant is calculated at the rate of \$10.00 multiplied by the average attendance in the room for the year. If the kindergarten teacher teaches only a partial day, the grant is pro-rated.

MANITOBA

In Manitoba all grants—capital, salary, maintenance, supply and transportation—are paid on a teacher or pupil basis. In calculating the grant for kindergarten, the enrolment in kindergarten is divided by 2, and that number is added to the average enrolment of students in the elementary school when determining the basic number of teachers. The basic number of teachers then is used to compute all grants with the exception of transportation. In computing capital grants, nursery school enrolment is not considered when estimating total classroom needs.

ONTARIO

Kindergarten classes come under the jurisdiction of the Department of Education, whereas nursery and other types of pre-primary classes are under the jurisdiction of the Department of Welfare. The kindergarten program is considered to be an integral part of the total school organization and is treated as the other elementary grades when computing grants. However, kindergarten pupils attend a half-day and it can be assumed that the grant per pupil divided by one-half represents the grant paid per kindergarten pupils.

QUEBEC

Grants are paid to kindergartens on essentially the same basis as for other elementary grades. Each board receives \$25 per pupil enrolled in kindergarten and one-half of the grant towards teachers' salaries to a maximum of 22 children per class or 44 per teacher. The latter may range from \$10.00 to \$75.00 per pupil depending upon the percentage of school revenue from real estate taxes. However, such grants are payable only if the teacher in charge holds an adequate specialist certificate. There are no grants for transportation.

NEW BRUNSWICK

Boards are permitted to operate kindergartens, However, no grants are available from the Provincial Government and the board must meet all costs.

NOVA SCOTIA

There is no legal provision for kindergartens as such. There is, however, provision for a pre-grade I program to which a child who has attained the age of 5 years on or before October 1 may be admitted. This pre-grade I program is termed the Primary Grade. It is described in a manual entitled *Teaching Suggestions for the Primary Grade* as follows:

The Primary Grade is partly an introductory grade where children are made ready for the more formal work the next year. It is also a grade where, in the last half of the year, children get some formal reading readiness and may do some actual reading. Most children are expected to remain a full year in Primary work, but there are a few who may go on to Grade I work at any time they are ready after the beginning of school. This policy was stated when the Primary Grade was established: All children beginning school for the first time at age five shall be enrolled in the Primary Grade. The program for this grade will for most children constitute a full year's work. (p. 6)

Since the Primary Grade, which appears to be similar to kindergartens in most other provinces, is a part of the regular program for the public schools of Nova Scotia, expenditures for its operation are supported by grants on the same basis as for other grades.

PRINCE EDWARD ISLAND

This province has no legislation respecting the establishment of kindergartens or pre-grade 1 classes. Hence no grant structure is necessary.

NEWFOUNDLAND

As in Nova Scotia, there is no legal provision for kindergartens as such, but there is provision for admitting pupils at 5 years of age to a pre-grade 1 program. All salary grants are paid by enrolment. In calculating this enrolment, children 5 years of age and older are counted in schools with 6 or more rooms. This means that grants are paid to school boards on account of children under 6, but not especially for such children.

ALBERTA

No provincial grants, either building or operational, are available for kindergartens. Kindergartens have to be operated on a supplementary requisition fund which is in addition to payments that go into the School Foundation Program. Private kindergartens in the province must be approved by the Department of Education with respect to staff and facilities, while nursery schools, day nurseries, and play schools come under the jurisdiction of the Department of Welfare.

It is interesting to note that Alberta is the only province in Canada that makes legal provisions for kindergartens but yet does not provide grants for their support. Or putting it another way, every provincial authority except those in Alberta and Prince Edward Island gives financial assistance to educational programs for children under the age of 6 conducted by local school systems.

Enrolment

Some indication of the number of children enrolled in pre-grade 1 classes (kindergarten, nursery school, etc.) in each province in 1965-66 is given in Table I. Differences among provinces in pupil accounting procedures makes it impossible to arrive at a complete or accurate set of figures.

As shown in Table I, three Maritime provinces do not legislate for kindergartens as such. Information received from Newfoundland reveals that about 7,000 pupils were enrolled in the pre-grade 1 program in 1965-66, representing about 5 per cent of the total school enrolment. Only 3 kindergartens exist in Prince Edward Island and all are operated under private auspices. In Nova Scotia the enrolment in their so-called Primary Grade in 1965-66 was over 18,000, which represents almost 17 per cent of the total pre-grade 1 population.

The pre-grade 1 enrolment figures for Alberta in all known legally-operated facilities during 1965-66 are further elaborated in Table II. These children, almost 11,000 in number, were to be found in 356 licensed facilities including 155 private kindergartens, 2 public kindergartens, 64 nursery schools, 45 day nurseries, and 90 play schools. While the vast majority of these facilities were located in Edmonton and Calgary, kindergartens were in operation, for example, in Banff, Bentley, Camrose, Cardston, Drayton Valley, Fort Saskatchewan, Grande Prairie, Hanna, Innisfail, Lacombe, Lethbridge, Medicine Hat, Olds, Ponoka, Red Deer, Rimbey, Smoky Lake, Turner Valley, Two Hills, Vilna, Waskatenau, Westlock, and Wetaskiwin; and nursery schools in Barrhead, Raymond, Lethbridge, Exshaw, Edson, Picture Butte, Fort Macleod, Drumheller, Wainwright, Marlboro, Sylvan Lake, Radway, Redcliff, Blairmore, Peace River, Smoky Lake, St. Albert, Medicine Hat, Wabamun, and Warspite (see Appendix). These data make it readily apparent that there already exists a large and widespread demand for pre-primary education throughout both urban and rural Alberta.

TABLE 1
Enrolment in Pre-Grade One Classes in
1965-66 by Provinces

Province	Enrolment Kindergarten	Nursery Schools etc.	Total	Percent of Pre-Grade I Population
British Columbia	12,210	no data	12,210	no data
Alberta	5,953	4,758*	10,711	4.0
Saskatchewan	3,241	no data	3,241	2.5
Manitoba	6,233	no data	6,233	4.7
Quebec	32,851	no data	32,851	no data
Ontario	127,982	15,000	142,982	17.7
New Brunswick	not available		900	5.0
Nova Scotia	no legal provisions for kindergartens			
Prince Edward Island	no legal provisions for kindergartens			
Newfoundland	no legal provisions for kindergartens			

* rated capacity — not actual enrolment

TABLE 11
Pre-Grade One Enrolment in Alberta, 1965-66.
By Facilities

FACILITY	ENROLMENT
Kindergartens — public	192
Kindergartens — private	5,761
Nursery Schools	1,437
Day Nurseries	1,170
Play Schools	2,151
TOTAL	10,711

Were this demand to lead to government support for kindergartens, its probable effect upon enrolment and the consequent need for teachers for the next ten years are shown in Table III.

Further information regarding sponsorship, accommodation, organization, and fees for the pre-primary institutions which were licensed in Alberta in 1965-66 is also given in the Appendix.

Curriculum Materials

There are 5 Canadian provinces, British Columbia, Alberta, Saskatchewan, Ontario, and Quebec which publish kindergarten manuals. Nova Scotia provides for its Primary Grade by publishing a **Manual of Teaching Suggestions** and teaching guides in the various subject areas. The Department of Education in Manitoba is now in the process of setting up a committee to review and produce a new kindergarten program. Up to the present most jurisdictions in that province have been using the program which was devised for the Winnipeg School Division No. 1.

The aims or objectives for kindergarten as stated in all curriculum materials are very similar and tend to center around helping to bridge the gap between home and school; providing for the child's social and emotional development; developing valuable habits, attitudes, and appreciations; helping the child satisfy his needs; and preparing him for systematic instruction in basic skills. To these Saskatchewan adds the development of moral and spiritual values and their application to daily living.

All publications deal with such organizational matters as classroom routines, timetables, records, reporting to parents, selection and use of equipment and materials, and the like. A major portion of each guide tends to be devoted to suggestions for learning activities in the language arts, number work, science, social studies, physical education, music, and art. Saskatchewan adds suggestions for devotional exercises. Typically, suggestions for teachers are included like the **Practice Helps for the Kindergarten Teacher** in the appendix of the Alberta bulletin, and **Criteria for Judging a Good Program for Young People** in the guide published by Saskatchewan. The Ontario guide gives considerable attention to the development of interests.

As previously indicated, early schooling in Nova Scotia is not called a kindergarten but is known as a Primary Grade. The program appears to be geared towards the intellectual development of the pupils. **The Program of Studies (1966-67)** for the schools of Nova Scotia prescribes the following areas for study in the Primary Grade — reading readiness and reading, printing, oral language, science, social studies, music, art, health, physical education, number work. For each of these areas a text-book and/or a teaching guide is listed.

Recommendations of Royal Commissions

Within the past decade or two a number of Royal Commissions have been established in several Canadian provinces to investigate various aspects of education. Since presumably the recommendations of these commissions represent, at least in part, a synthesis of informed lay opinion and considered professional judgment, they warrant careful consideration.

The Royal Commission in Ontario (1950), which was the first to report stated that:

There can be no doubt that kindergarten training serves a most useful purpose in supplementing home training, in assisting the child in a transition from home to school life, and that it helps progress and achievement through the regular grades. (p 53)

TABLE 111

**Estimates of Enrolment and Number of Teacher That Must be Prepared in Alberta if School Services Extended
Downward to Include Five-Year-Olds on a Voluntary Basis**

1	2	Estimate A					Estimate B				
		3	4	5	6,	7	8	9	10	11	12
Year	Total Eligible Children	Enrolment	Total Teachers Needed	Number In Teaching Force	Number From Other Sources	Total New Teachers Needed	Enrolment	Total Teachers Needed	Number In Teaching Force	Number From Other Sources	Total New Needed Teachers
1966	39,400	1,970	66	0	56	10	1,970	66	0	56	10
1967	39,300	9,825	328	53	33	242	9,825	328	53	17	258
1968	39,000	19,500	650	252	65	333	19,500	650	252	33	365
1969	37,000	18,500	617	488	62	67	22,200	740	488	37	215
1970	35,000	17,500	583	463	58	62	24,500	817	534	41	232
1971	36,000	18,000	600	437	60	103	27,000	900	613	45	242
1972	37,000	18,500	617	450	62	105	29,600	987	675	50	262
1973	38,000	19,000	633	463	63	107	32,300	1,077	740	54	283
1974	39,000	19,500	650	475	65	110	35,100	1,170	808	59	303
1975	40,000	20,000	667	488	68	111	36,000	1,200	878	60	262

Table III Continued

Sources and Assumptions

- Col. 2 — Special Services Branch, Alberta Department of Education, **Estimated Pupil Enrolment in Tax Supported Schools**, November, 1965.
- Col. 3 — Assuming rapid initial development in urban centers to maximum of 50% of eligible children in province.
- Col. 4 — 9 — Obtained by dividing minimum enrolment (Col. 3) by a pupil-teacher ratio of 30 based on a double-shift of 15 children each.
- Col. 5 — 10 — Assuming slightly lower retention than for teacher force as a whole in five years, 1959-64.
- Col. 6 — Assuming relatively large initial pool decreasing to constant 10% of total teachers needed with maximum recruitment.
- Col. 7 — Difference between column 4 and the total of columns 5 and 6.
- Col. 8 — Assuming rapid initial development in urban centers gradually spreading throughout the province to maximum of 90% of eligible children.
- Col. 11 — Assuming relatively larger initial pool decreasing to constant 5% of total teachers needed with selective recruitment and increased production of new teachers.
- Col. 12 — Difference between column 9 and the total of columns 10 and 11.
-

It therefore recommended establishment of kindergartens on a permissive and voluntary basis, with the authority extended to school boards to charge fees.

The Manitoba Royal Commission on Education (1959) apparently did not consider kindergartens within their terms of reference, but the Alberta Royal Commission (1959) quotes from a brief of the Alberta Teachers' Association (1958) as follows:

Pre-school training of the kindergarten variety, and reading-readiness training, both increase reading readiness when other developmental factors are favorable.

The essence of any solution to the problem of optional age of school entrance is differential treatment of children of varying degrees of readiness. Thus, some children are ready for entrance into grade one at five years of age, and others are less ready at seven. In many school systems this problem is partially met by the existence of kindergarten facilities in which children are given the type of developmental experience most appropriate. Thus, some receive reading readiness training while others are experiencing the ordinary activities of the kindergarten. This process prepares them for reading activities in grade one as well as ranking them in order of readiness (p. 73)

In a later section of its report the Commission then goes on to say:

While it is recognized that problems would be encountered in the introduction of kindergartens throughout the Province, their absence is a serious omission of educational effort. The Commission recommends serious study to devise ways of incorporating kindergartens as an integral part of public schools. (p. 257)

The British Columbia Royal Commission of Education (1960) after reviewing a number of briefs and studies on kindergartens:

... concludes that the accumulated evidence is favourable to the establishment of public school kindergartens as being of educational and social advantage to pre-primary school pupils.

The Commission recommends that kindergartens of a type required to meet local needs be established at the discretion of the Local Boards of School Trustees; that the expense of such kindergartens be shareable; that no fees be charged; that attendance be voluntary; that the parents be responsible for transporting their children to and from kindergartens; that daily attendance be no longer than one-half of a school day, except in the case of a kindergarten which serves also as a creche. (p. 127).

A most recent Royal Commission report comes from the Province of Quebec (1965). In a section devoted to pre-primary education, the Commission states that the aim of kindergarten and nursery schools is to provide a wholesome environment in which the child finds: satisfaction of his current needs; an opportunity for the harmonious development of his personality; and a chance to engage in activities suited to his individual interests and abilities (p. 80).

The Commission's views about how this aim may be achieved are contained in the following excerpts:

Pre-school education should not be reserved for a group of privileged children. It should be wide open to all families which desire to take advantage of this service, whatever their social background. The nursery school and kindergarten are even more needed in environments where children do not have the benefit of a family atmosphere which stimulates the mind and cultivates taste.

... they should become a public service, like elementary and secondary education. They should be free and accessible to all children, as much as possible to rural as well as to urban children and, for even more compelling reasons, to those in poor neighbourhoods as much as those from prosperous families. (p. 81)

With reference to the downward extension of school services in rural areas, the Quebec Commission notes that:

We have observed in various countries that nursery schools and kindergartens flourish above all in urban surroundings. Transportation of very young children in rural regions creates a problem that is difficult to solve. The difficulty is even more acute in our country with its long, severe winters. However, we are unwilling to believe that this should be sufficient reason to resign oneself to the idea that children in rural areas should be deprived of pre-school education. A variety of formulas should be worked out and their value carefully scrutinized. (p. 83-84)

Such unanimous agreement about the value of pre-primary education for young children and desirability of making it widely-available is significant and must be pondered.

SELECTED PROGRAMS AND PRACTICES

To provide for a first-hand study of different kinds of programs and practices in early childhood education, a number of authorities were contacted to seek advice on school visits. Suggestions were received from the United States Office of Education, Department of Health, Education, and Welfare; the Association for Childhood Education International; the National Education Association, and several individuals. From the numerous possibilities suggested a selection was made to include one or

more of each of the following kinds of programs: (1) public school kindergarten, (2) private kindergarten, (3) nursery school, (4) experimental, (5) culturally disadvantaged, and (6) laboratory school for teacher education.

Among the centres visited were 5 schools in the Ottawa Public School system, including both kindergarten and kindergarten-primary classes; 3 public schools in Montgomery County, Rockville, Maryland; the Center for the Study of Culturally Deprived Children and Their Parents at Howard University, Washington, D.C.; 4 public schools in Arlington, Virginia; the Educational Research Council of Greater Cleveland, Cleveland, Ohio; 3 classes in the Cleveland Public Schools; the Child Development Center in Cleveland; 3 public schools in Detroit, Michigan; the Department of Early Childhood Education, Wayne State University, Detroit, Michigan; the Merrill Palmer Institute, Detroit, Michigan; the Institute of Child Development, University of Minnesota, Minneapolis; and a private nursery and kindergarten in Dallas, Texas.

While visiting schools the major emphasis was on observations of the on-going program, but in each classroom a discussion was held with the teacher and, where possible, with the principal and teacher's aide as well. In addition to these discussions on classroom practices, interviews were also granted by the following people: Mrs. Lenore Wetmore, Kindergarten Supervisor of the Ottawa Public Schools; Mrs. Martin, Parent Educator, Howard University; Dr. Minnie Perrin Berson, Specialist in Early Elementary Education, U.S. Office of Education; Miss Frances Nuttall, Kindergarten Consultant, Montgomery County Public Schools, Rockville, Maryland; Mrs. Gennette Nygard, Director of Elementary Programs, Arlington Public Schools; Mr. Robert Wilford, Mr. Raymond English, Dr. Ralph Ojemann, and Dr. Karen Pritchett at the Educational Research Council of Greater Cleveland; Miss Henrietta Lord, Kindergarten Supervisor, Cleveland Public Schools; Mrs. Christine Branch, Director of Project Headstart in Cleveland; Mrs. Charlotte Gmeiner, Kindergarten Supervisor, Detroit Public Schools; Dr. Eleanor Moore, Professor of Early Childhood Education, Wayne State University; Miss Dorothy Haupt, Head, Early Childhood Education, Merrill Palmer Institute; Dr. Shirley Moore, Miss Dorothy Wade, Mrs. Corinne Nerenstein, Miss Nance Laubengayer, Miss Anne Jones, Mrs. Grethchen, and Miss Karen Williams at the Institute of Child Development, University of Minnesota; and Mrs. Mary Boswell, director of the Mary Boswell School, Dallas, Texas.

Much detailed information was gained from these observations, interviews, and discussions.* This information is summarized below with emphasis upon the procedures and policies observed most frequently. An attempt is also made to identify major trends and future needs in early childhood education. It is hoped this summary, when coupled with the data provided in the recent publication by the United States Department of Health, Education and Welfare entitled *A Survey of Early Elementary Education in Public Schools*, will yield a reasonably accurate description of the status of early childhood education elsewhere, particularly in the United States.

Organization and Policies

Kindergarten education usually refers to a program for children at age 5. The age for entrance to kindergarten, on approximately September 1, varies between 4 years and 7 months to 4 years and 11 months. Nursery school education usually

*Further elaboration on this material may be obtained from Dr. Ethel M. King of the Department of Curriculum and Instruction, University of Calgary, who has the original notes and pictures taken during this part of the study.

refers to programs for children at ages 3 and 4. There is considerable variation in the age for admission to nursery school.

The maximum enrolments in public kindergartens ranged from 25 to 30 where only one teacher is employed. If enrolments exceed the maximum figure, as they frequently do where kindergartens are available to all children, then some kind of additional assistance is usually provided for the regular teacher. There is widespread agreement that the maximum enrolments should be reduced to provide for a lower pupil-teacher ratio. The maximum enrolments in nursery schools is about 18.

The initial registration in a nursery school or kindergarten usually takes place towards the end of the preceding school term. When classes begin in September the number of children admitted each day is often regulated. The numbers are increased gradually until the entire group has been admitted. This period of admission may vary from 2 days to 2 weeks. In addition, the period of instruction is often shorter during the first few days. Orientation of the child receives major attention during this period. By admitting children a few at a time the teacher has a better opportunity to get to know the children individually, and to help the children get to know each other, thereby facilitating better adjustment to the group situation.

Most public kindergartens operate on 2 daily sessions from 2½ to 3 hours each in length. Private kindergarten and nursery school hours tend to vary most depending on the special groups or needs which they are catering to. Large blocks of time are generally considered advantageous in timetabling to provide for a flexible program. Accordingly most teachers plan for one period per day of at least one hour in length.

Half-day kindergartens do not provide a mid-day lunch for children. Most kindergartens do, however, make provision for serving a mid-session snack. Many kindergartens also make provision for supplying supplementary foods to children who need them. In nursery schools, the snacks provided tend to be more elaborate. Policies for financing lunches and snacks in nursery schools and kindergartens vary. In experimental projects there is no charge while in private institutions the charge is included in the fees. Children may or may not pay for the cost of a snack in public schools. When pupils in such schools are charged the cost varies from \$5.00 to \$10.00 a year.

Evaluation procedures and practices vary considerably. In regular kindergartens and nursery schools there tends to be very little formal evaluation based on the administration of tests. The most frequently used kind of test is a reading readiness test, administered late in the kindergarten year. In addition, many programs in early childhood education utilize the services of a specialist to diagnose exceptional cases which are referred by the teacher or principal. Experimental programs, on the other hand, tend to include much formal evaluation. For example, in one headstart program the following tests were administered to selected children: **Pre-school Inventory** (Modified Caldwell Scale), **Pre-test and Post-test**, **Peabody Picture Vocabulary Test**, **Illinois Test of Psycholinguistic Ability**, **Lee-Clark Reading Readiness Test**, **Frostig Perception Test**, **Field Trip Vocabulary Check List**, and the **Stanford-Binet Intelligence Test**. With young children, the consensus of opinion seems to be that informal evaluations and teachers' observations should be highly regarded. Comparisons of the results of formal test scores with teachers' informal evaluations in Ottawa kindergartens have revealed very little difference between these two types of evaluation.

Using the results of various kinds of evaluation, teachers report informally in many ways to the parents, including discussions, interviews, and permitting children

to take home samples of work. Occasionally informal reporting procedures are supplemented by a written report prepared at regular intervals by the teacher.

By the end of the kindergarten year there may still be a few children not ready to proceed to grade I. Some school systems provide a special preparatory program for such children, usually of about 4 months duration.

A factor of prime importance in early childhood education programs is the staff. Public school programs are usually under the leadership of a kindergarten supervisor, while experimental or laboratory programs are guided by a director. Qualifications of the teaching staffs vary greatly but nearly all programs require special course work in teaching the young child. In some places teachers who have graduated from teacher education programs in early childhood are placed with an experienced senior teacher for a year. When the enrolment in a public nursery school or kindergarten exceeds the allowable maximum, assistance is usually provided for the regular classroom teacher—either a part-time teacher, an additional teacher, or a teacher's aide. Voluntary help may be used in special circumstances, such as in the supervision of field trips or in co-operative nursery schools. In one area, the kindergartens are co-operating with a Senior Citizens' Committee to secure women volunteers for non-remunerative work as teachers' aides.

A relatively new development in early childhood education is the emergence of parent education programs. This is particularly noticeable in many of the head-start projects. They are also to be found in many well-established programs as well. For example, the city of Cleveland has for some time conducted classes to inform parents about public school kindergarten activities. A series of meetings is held every 2 or 3 years in each community district on a rotating basis.

Although considerable variation in school policies and organization was observed, there is a general agreement that early childhood education program scheduling must be flexible, that lower pupil-teacher ratios would be advantageous, that more than one adult in attendance is desirable to supervise adequately a group of young children, and that improved teacher's qualifications are needed.

Facilities and Equipment

Of the classrooms visited no two were alike, either in architectural design or in the equipment provided. The range included traditional classrooms, re-modelled classrooms, and flexible, well-equipped classrooms of modern design. Early childhood classrooms which were used for experimentation or teacher education are spacious, very well equipped, and have provision for observation booths. Generally about 50 square feet of indoor space, and 100 square feet of out door space, is advocated for each child.

In the newer public schools, kindergarten classrooms are often irregular or multi-sided in design as opposed to four walls at right angles to each other. This provides an opportunity for teachers to develop more interest corners in the room. Greater flexibility is sometimes achieved, also, by providing folding or sliding doors. Most classrooms designed especially for young children have a door leading off the room to an adjacent outdoor playground. Such a room also tends to have a large amount of window space on the outside wall so that the teacher can observe the playground from inside the room. Individual lockers or coatroom facilities, and a minimum of two toilets, one sink, and one drinking fountain are housed within each of the modern kindergarten and nursery school classrooms. In some schools where there

are 2 or more kindergarten classes in both the morning and the afternoon, a special arrangement is made whereby one room is used as a work room and the second room is used for special activities. The kindergarten teachers in such units tend to plan their activities together and exchange rooms as needed.

Regardless of the age or design of the building, certain portable equipment is commonly provided. Major items found frequently in kindergarten and nursery classes include; movable tables and chairs, piano, record player, records, folding screens, flannel boards, easels, pocket charts, well-furnished playhouses, large blocks, indoor and outdoor play equipment, aquarium, terrarium, and other science equipment, puzzles, picture books, and a great variety of art materials. Of special interest were unique materials in use in some areas: listening tables, wood-working tables and tools, "water puddle" for indoor or outdoor water play, specially constructed table for water or sand play, water tanks, phone booths, typewriters, printing sets, television, indoor and outdoor jungle gyms, hoops, climbing apparatus, and outdoor gardens. In one school system a slanted wall in each room is used to good advantage, either as a bulletin board, or to provide an appropriate place for painting. A ledge at the bottom with appropriate-sized holes serves as a resting place for paint bottles. Great ingenuity was shown in some areas in the design and use of cupboards and counters. Some cupboards provide counter space for working with storage space for pupils below and storage space for the teacher above. Many cupboards with counter space are used more effectively when placed on casters. These may then be used as room dividers for special group activities.

Needless to say, equipping classrooms for an effective program in early childhood education is expensive. The Ottawa Public Schools have found an effective method of reducing such expenditures and yet maintaining very well-equipped rooms. Much of the kindergarten and kindergarten-primary equipment is made in the shops of the vocational schools. The materials needed are paid for from the kindergarten budget. There is no charge for labour and all repairs to the equipment are done by the students in the vocational schools. It is anticipated that girls in the home economics classes will be recruited to make doll clothes to be used in the kindergarten playhouses.

Generally, teachers are asked to submit an annual order for the larger and more expensive pieces of equipment. In addition, most systems have some arrangement whereby teachers may order expendable supplies throughout the year. Some areas have restricted budgets of about two dollars per pupil per year for expendable materials. Other areas urge their teachers to order moderately but there is, in effect, no set maximum expenditure for supplies.

Curriculum

Large public school systems usually prepare and distribute a kindergarten curriculum guide. These are intended to be used as resource or reference books, and teachers are instructed to use them when the suggestions are suited to the interests and needs of the group. Recently there has been a trend in some areas towards the adoption for total class use of certain materials, particularly in the skills area. In such instances, teachers are usually directed not to adhere rigidly to the books; nevertheless, the use of a set of materials or books tends to have a restricting influence on the selection of activities, the presentation of lessons, and the amount of individualization of instruction. Activities of the kindergarten programs are often centred around units of work, particularly in the areas of science and social studies.

Considerable variation in curriculum was observed. Consequently it was not surprising to discover that school workers at this level were not in unanimous agreement about the importance and/or value of curriculum changes that have occurred in recent years. Nevertheless, the different educators interviewed repeatedly cited the following characteristics of the changing nursery school-kindergarten curriculum during the past 5 years, not all of which were deemed desirable:

1. Inclusion of content previously taught in grade I.
2. Earlier attention to skill development activities including reading.
3. Mounting concern for intellectual development.
4. More stress upon sequence in learning.
5. Decreased attention to physical development.
6. Greater emphasis on compensatory education.
7. Less concern for social grouping.
8. Increased teacher direction with a corresponding decrease in pupil self-selection of activities.
9. Greater variety and diversity in instructional materials and equipment.
10. Growing public interest in pre-primary education.

Major Trends

A number of important trends appear to be evolving in early childhood education programs, some of which represent a continuation of those noted above. These trends are based on the observations and discussions of actual classroom practices, and may be enumerated as follows:

1. Provision of a balanced curriculum designed to facilitate both the intellectual and the social-emotional aspects of development.
2. Up-grading of the curriculum so that children will not be working below their potential.
3. Stress on the discovery method or inquiry approach to learning.
4. Greater flexibility in organization, grouping, and scheduling.
5. Increasing emphasis on learning to learn.
6. Refinement of techniques for developing language skills.
7. Return to a core-type curriculum.
8. More attention to specific readiness skills in various subject areas.
9. Diversification and expansion of instructional resources.
10. Adaptation of programs to accommodate children from different socio-economic levels.
11. Increased involvement of parents in activities designed to better acquaint them with purposes and programs in early childhood education.
12. Employment of para-professional personnel to assist teachers with the preparation of materials, supervision, and other non-teaching tasks.

13. Growing pressure to advance some aspects of the curriculum of the primary grades into kindergartens.
14. Increased interest in and application of the work of Montessori and Piaget.
15. Mounting financial involvement at the local, state (provincial), and federal levels in the education of young children, particularly in the United States.
16. Planning for the education of children age 5 as an integral part of the regular school program.
17. Strong endorsement of publicly-supported programs for children ages 3 and 4, either in the regular school building or in separate facilities.

Future Needs

In looking to the future, and planning for the development of the most effective kinds of programs in early childhood education, specialists in this area indicated certain needs. These needs are summarized below in an attempt to provide a sense of direction or an indication of the **ideal**.

1. Education for all children at age 5 should be provided by the regular school system.
2. Early schooling for children below the age of 5 should be made available by the regular school system on a voluntary basis.
3. Clarification of the objectives of various phases of early childhood education.
4. Better articulation of nursery-school, kindergarten, and primary programs.
5. Major re-organization of the curriculum for children ages 4 to 8.
6. Experimentation with a non-graded-type program for the early education of children ages 4 to 8.
7. A greatly increased supply of qualified teachers for early childhood education programs.
8. Revision of early childhood teacher preparation programs, with emphasis upon a multi-disciplinary approach to child development, culminating in a master's degree as the minimum requirement for certification.
9. Reduction in the pupil-teacher ratio with 2 adults (teacher and aide) per 15 children in nursery schools, and 2 adults per 20 children in kindergartens, being optimum.
10. Development of preparation programs for teacher aides.
11. Organization of parent education classes.
12. Availability of specialized consultative personnel like social workers and psychologists.
13. Increased supply of books for children to read and for teachers to read to children.
14. Resistance of pressures to make kindergarten programs resemble former grade I programs.

Statement of Educational Policies Commission

As this study was nearing completion, the Educational Policies Commission of the National Education Association of the United States and the American Association of School Administrators published a statement entitled **Universal Opportunity for Early Childhood Education**. The statement explains why such an extension of education is advocated, briefly describes the type of program envisioned, and indicates the financial and other measures required for its implementation. Because of its timeliness and relevance to the Alberta scene, selected excerpts from this publication are reproduced below:

Research shows clearly that the first four or five years of a child's life are the period of most rapid growth in physical and mental characteristics and of greatest susceptibility to environmental influences. Consequently, it is in the early years that deprivations are most disastrous in their effects. They can be compensated for only with great difficulty in later years, and then probably not in full. Furthermore, it appears that it is harder to modify harmful learnings than to acquire new ones. Finally, experience indicates that exposure to a wide variety of activities and of social and mental interactions with children and adults greatly enhances a child's ability to learn. Few homes provide enough of these opportunities. It is reasonable to conclude that the postponement of an educational contribution by society until children reach the age of six generally limits the flowering of their potentials. (p. 3)

... although early schooling is needed, family life must be strengthened, not replaced. The need is for a complement, not an alternative, to family life. But the need is compelling . . . Those children commonly called **disadvantaged** are in the greatest need of early schooling, for they are most in need of help in developing their ability to live independently and creatively in a modern society . . . Early education is advisable for all children, not merely because of the need to offset any disadvantages in their background, but also because they are ready by the age of four for planned fostering of their development . . . Early education has long been available to the well-to-do, and it is commendable that governments are now acting on the need to make it available to some of the poor. But the large middle group should have the same opportunities. (p. 4)

The opportunity for early education at public expense should therefore be universal. The nation would benefit in the greater development of its people's talents and in the reduction of the need for expensive remedial work and of the incidence of dropout with its attendant economic and social ills. The nation would benefit, too, from the knowledge that public educational funds are being spent with greater efficiency . . . Individuals would benefit . . . as well as in the enjoyment of a richer childhood and a lifetime lived at a higher level of achievement than is typical today. (p. 5)

Beginning at what age would the opportunity for education be offered at public expense? (p. 5)

... the Educational Policies Commission recommends that it begin at the age of four. These two additional years are years about which there is considerable knowledge regarding the contribution that organized education can make. These are years in which many parents deem it desirable for children to have a few hours away from home during the day. (p. 5) In proposing that school extend downward to the age of four, the Commission does not intend a simple downward extension of, or preparation for, the program now offered in most first grades. We envision a program uniquely adapted to children of ages four and five; the program for six-year-olds would be altered to take into account the earlier schooling of the children rather than vice versa. The program suitable for four and five-year-olds differs in basic ways from the traditional first grade, for it is not focused on reading, writing, and arithmetic and it need not be an all day program.

What is here advocated is not preschooling but an integral and vitally important part of schooling (p. 7)

If such education were universalized, most children would reach six years of age with a level of development strikingly different from that which they bring to school today. More of them would probably resemble in general development and learning ability the children who come to school today from the most favored homes. These are not necessarily the wealthiest homes. Rather they are those in which parents take the most responsible, rational, and appropriate roles in the rearing of their children. They are homes which give love, inspiration, challenge, support, and experience. They are homes where parents serve as models of rationality and developed intellectual capacities. The children who come from such homes have an appetite for learning and great readiness for it and for the school. Many first grades in their present form could not meet the needs of children so capable and so eager to learn. With universal early childhood education, almost every child would have a higher starting point in knowledge and developed ability. Almost every child would view the teacher and the school less as a source of answers than as a source of encouragement to exploration and self-realization (p. 10-11)

The Educational Policies Commission recommends that the federal government provide general support to the schooling of four and five-year-olds. But all levels of government must co-operate in seeking the funds, and early childhood education should be financed and administered as an integral part of public education. The money would bring many returns. The number of children requiring costly, slow, and sometimes fruitless remedial services at the elementary or secondary level would probably decline drastically. The return to the nation in enhanced capabilities of the population would be immense. The return to children in a more joyful, creative, and productive childhood would be immeasurable (p. 12)

Section Four

ENVIRONMENTAL CONDITIONS IN ALBERTA

As research in early childhood has indicated, environment plays a significant part in determining the extent to which a child develops his various abilities. Accordingly, it is important that some assessment be made of the environmental conditions influencing the growth and development of children in this Province to help determine the need for a downward extension of school services, and as a guide to program development generally. This section of the report seeks to provide such an assessment using existing data already collected by a variety of agencies and individuals. Attention will be focused upon the presence or absence of a limited number of selected factors in the Alberta out-of-school environment which may have adverse effects upon child growth and development. These factors are those which are included in three of the seven major dimensions of the educative environment identified by MacArthur (1966); namely, cultural stimulus, language, and achievement motivation. Presumably the difficulties and limitations of making this kind of an assessment are well known and will be borne in mind by the reader.

CULTURAL STIMULUS

The cultural stimulus dimension of the environment includes such factors as the education of parents and siblings, parental interest in schooling, opportunities for varied direct experience with the world and for vicarious experience through books, television, and the like, as well as opportunities for generally rich perceptive and conceptual development (MacArthur, 1966). What follows is a partial description and analysis of this dimension of the Alberta environment and its component factors.

Level of Education

Educational standards for the Province as a whole are relatively high. The Canada Census 1961, shows that 82.2 percent of Alberta's population between the ages of 5 and 19 years were attending school as compared to 80.8 percent of this age range for the whole of Canada. In that year, 5.9 percent of the population of Canada had reached or completed secondary school. Alberta's percentage for a corresponding group was 6.0, ranking fourth behind Quebec, Saskatchewan, and British Columbia, each of which had a percentage of 6.1. However, not all areas of Alberta reached this standard of education. Figures from the 1961 Census further show that in that year 27.7 percent of Alberta's population five years and over were attending school. Comparable percentages in the various Census Divisions within the Province ranged from a high of 31.9 percent in Census Division Number 13, to a low of 24.5 percent in Census Division Number 9. The percentage of this age group attending school in Census Division Number 14, was 26.7. A report (Janssen, 1965) on this latter Census Division shows that of the 73 percent of its population not attending school in 1961, 52 percent had grade VI or less, and 93 percent had grade X or less. Only 7 percent of the adult population had more than grade X. The provincial average was 12 percent (p. 22). Additional evidence of the inequality of educational standards in Alberta may be found in a brief presented to a Committee of the Cabinet of the Alberta Government in January, 1966 by the Lac la Biche Board of School

Trustees. A survey conducted in that area with 232 typical residents revealed that 115 of this number had grade VI or below, 33 had grade VII, 43 had grade VIII, 27 had grade IX, 7 had grade X, 5 had grade XI, and 2 had obtained a grade XII education.

A similar situation exists among the Metis in the Lesser Slave Lake area. As part of an investigation in that region reported by Card Hirabayashi and French (1963), 81 males between the ages of 19 and 45 years were questioned on the amount of education they had received. It was found that their education ranged from no schooling to beyond grade XII. Only 55 of the 81 persons examined could read and write, 14 were able to write a minimum amount only, 12 were able to write their names only.

These may be considered as isolated instances and consequently dismissed as unimportant. However, numbers of today's youth are still leaving school without having qualified for a high school diploma. During 1963, some 6776 pupils left Alberta's schools before completion to take jobs. About one-half left during their final year of school, 30 percent during grades X and XI, and 20 percent before completing grade IX. Some sections of the Province have a much higher drop-out rate than others. This is the case, for example, in the Lac la Biche School Division. The brief previously referred to notes that within the age group 5 to 9 (which should include roughly 75 percent of all children in this age group) the Lac la Biche Division was educating only 61.9 percent of the critical-years students as compared to 70.8 percent in the Town District, and 80.9 percent in the County of Athabasca its western neighbor. Furthermore, in the compulsory age group 10 to 14 (where percentages should approximate 100) the area enrolls 93.1 percent with female attendance at only 89.8 percent. Of the age group 15 to 19 (which again should approximate 75 percent), Lac la Biche was able to retain 55.4 percent in total, and only 50.8 percent of the males.

Data in the Lac la Biche brief on drop-outs over a 5 year period is even more revealing. By projected comparisons it was found that in the Lac la Biche School Division 51.05 percent, or 320 students, did not reach the senior high school as compared to a theoretical or expected number of 116 students. During the 5 years studied, 92 students (14.70 percent) never entered junior high school compared to a projected comparison of only 14 students. Only 193 students received a grade XII education compared to a projected estimate of 405 students. Estimates from Census Division Number 14 show that between 50 and 70 percent of the number of grade IX students in that area tend to drop out of school before reaching grade XII. A study conducted in the Acadia School Division in 1962 (Rancier) indicated that although the trend there was beginning to level off due to lack of employment opportunities, and increased publicity of the value of a high school education, the drop-out rate from the Acadia School Division has been high, exceeding provincial rates.

Assuming that the level of education a person reaches is related to the type of occupation he enters, the foregoing facts constitute evidence that each year a number of students are leaving school who have attained a level of education sufficient to qualify them for occupations which can only result in a low standard of living. About 3 out of every 4 students who left Alberta schools in 1963 were headed for unskilled and semi-skilled jobs. In the Lac la Biche area, 55.96 percent of the drop-outs attempted non-skilled labor, marriage or common-law relationships, or were unemployed, compared to a provincial average of only 15.24 percent.

Most of the reports or surveys on such conditions as have been noted above, offer recommendations for a possible solution of these problems. Such a recommendation as the following in **Resources for Rural Development in Census Division Number 14** may be taken as typical:

Programs should be initiated which would raise the educational level of local people, (p. 22).

In many areas, various programs have been implemented for this purpose, usually at the junior high school or post-high school levels. However, the trend emerging elsewhere is to concentrate on preventive rather than remedial measures. Studies of the causes of drop-outs are showing that factors in the pre-primary years are often crucial in determining whether or not a child will graduate from secondary school. Bloom (1964) contends that at least one-third of a person's potential academic development has taken place before he enters first grade. It would thus seem that if educational standards are to be raised, and the number of drop-outs decreased, suitable programs must be set up in the pre-primary years to ensure that each child is given "a right to the training that is best for him." (Shibler, 1955, p. 25).

Income and Occupation

Closely related to the level of education is the type of work engaged in, and consequently the standard of living. Awareness of this fact has given rise to Project Headstart in the United States as a means of helping disadvantaged children overcome the handicap of not having experiences in their out of school environment which stimulate them to develop mentally, emotionally, and socially to a level that would be considered **normal** for their chronological age. Such experiences include exposure to books and television, and trips to various places of interest such as parks, zoos, museums, movies, and the like. The income criterion for a **disadvantaged home** in Project Headstart is considered to be less than \$3,000 per family per year. And while it is dangerous to use a certain figure as a measure of a family's ability to provide an enriched environment for the children, it may be assumed, nevertheless, that those with low incomes find this difficult.

As in the case of education, the income of Albertans is fairly high when the entire Province is considered. Figures from the 1961 Census show that the average family income in Alberta in that year was \$5,602 compared to a national average of \$5,449. The average income for persons not in families was \$2,285 while the national figure for such persons was \$2,137. The per capita income of Albertans in 1961 was \$1,582. Evidence that the annual income is increasing is shown by the fact that the per capita income of Albertans in 1965 was \$1,793. No recent figures are available on average family income, but it seems reasonable to assume that there has been a corresponding increase.

The foregoing figures can, however, be misleading. Not all parts of the Province enjoy this level of income and consequent standard of living. Alberta is a province of income extremes. This fact is well illustrated in a report of the Social Planning Council of Calgary (1965). With reference to the three major cities in the West—Edmonton, Vancouver, and Winnipeg and the two large ones in the East; Toronto and Montreal—Calgary has proportionately more credit managers, office managers, managers of oil and gas companies, managers in wholesale trades, and managers in finance, insurance and real estate. Calgary has the second highest average income per taxable return in Canada. Yet, approximately 15 percent of the wage and

salary incomes of males in Calgary is less than \$2,000 per year. Many of these men attempt to support families on these incomes. And, as the report points out, it is the contrast of extremes which produces cultural deprivation. With respect to the area of the city in which the majority of the low income families live, it is noted that:

The dwellings are in poor condition—many without central heating. Amenities such as exclusive family use of toilets, baths, refrigerators, television, cars, home freezers, etc., taken for granted by the average citizen are noted for their absence in many low income areas. (p. 4).

Moreover, these areas are populated by large numbers of young children.

It appears that about one-third of Calgary's students drop out of school before completing grade IX (Calgary Social Planning Council, 1965), and in all likelihood the majority of these students come from such lower-class homes. According to the data of the Linton and Swift study (1963), there were better than 4 times as many lower socio-economic children among the failure group writing grade IX departmental examinations as there were in the honours group. The study also showed a significant relationship between parental income and the achievement level of the child. Even when the cut-off point was high (\$6,000 per year), the joint income of the two parents was an important factor in a boy's success or failure in school. From their study these authors concluded that sons of manual workers in Calgary have a relatively poor chance of successful academic achievement.

Such debilitating socio-economic conditions are not just confined to Calgary. According to the 1961 Census, the average total income of families in Metropolitan Edmonton amounted to \$5998, and that for persons not in families to \$2384. The demand for workers for professional, technical, and managerial jobs in Edmonton is high. However, the laborer, artisan, and shopkeeper are finding it harder and harder to compete with the complexities of our industrialization. Data from the Edmonton Welfare Council Report, **Background for Planning** (1965), show that one family in every 4 is living below the threshold of poverty, that is, on less than \$4000 annually. Among non-family persons, nearly one-half live below the acceptable level of income of \$2000 per year. * Even if the cut-off point for salary income were lower, many Edmontonians could still be deemed to be finding it difficult to maintain a decent standard of living. Table IV, which is reproduced from the Edmonton Welfare Council Report (p. 12), shows the range of annual income below \$4000 for families and below \$2000 for non-family persons.

TABLE IV
Percentage of Population Living at Various Levels of Poverty,
Edmonton Metropolitan Area, 1961.

	Income Level		
	Under \$2000 7.6%	Under \$3000 14.9%	Under \$4000 28.5%
Families			
Non-family persons	Under \$1000 29.6%	Under \$1500 39.0%	Under \$2000 47.1%

*The Canadian Welfare Council has suggested that the cut-off points defining poverty be \$4000 a year for families and \$2000 a year for non-family persons.

In final section of **Background for Planning**, certain areas of the City of Edmonton are identified as warranting community attention. Top priority is given to the Boyle Street area. With reference to this area, the City Planning Department of the City of Edmonton in its **Application for Urban Renewal Schemes** makes this comment:

Boyle Street, the "skid row" of Edmonton is characterized by a high concentration of multi-problem families, down-and-outs, transients, and their associated friends. The buildings have served many purposes—houses converted to laundries, and reconverted to houses, restaurants converted to rooming houses, etc.,—but they all produce relatively high rentals for the poor accommodation provided.

It would be naive to expect that a purely physical program of reconstruction or relocation would come to grips with the processes of decay that are fed by the social-human problems of this area. These problems have grown out of poverty, ill health, illiteracy, racial background, environment and the pressures of modern society. The inhabitants of Boyle Street experience a tenuous relationship with the rest of the city that it would be impossible to effectively isolate physical from social rehabilitation.

... If all aspects of Urban Renewal in Edmonton are to be effective it is imperative that a continuous treatment program for socially rehabilitating the multi-problem families be instituted. (p. 16).

It was to remedy such conditions in the large cities of the United States that the Economic Opportunity Act of 1964 was passed which made Project Headstart possible. Those who spearheaded this project believed that poverty was transmitted from generation to generation, and they were determined to minimize its impact, and eliminate it if possible, through early education. In the summer of 1965, Project Headstart cost \$112,000,000. Nearly 560,000 children took part in 13,400 centers in 2,500 communities. Similar action, albeit on a smaller scale, is obviously implied in the foregoing quotation. It is not enough to remedy the physical conditions of the poor and their children. They must be able to fit into the larger society. Thus educational programs are imperative, especially for the very young, before the poverty they have inherited has caused irreparable damage.

From the data about Calgary and Edmonton one might be inclined to conclude that cultural deprivation is a city or urban phenomenon. However, the Lac la Biche Report referred to earlier makes it clear that similar conditions exist in many rural areas. It is observed that:

The lack of development and economic depression of the Local Improvement District can be realized when it is noted that throughout this huge area, including the town of Lac la Biche and the village of Plamondon, the total equalized assessment is a mere \$3,500,000.00, half of which is borne by the town of Lac la Biche. A significant feature of the assessment becomes evident when it is noted that one-quarter of the population of the area is responsible for one-half of the tax bill. (p. 2).

Further evidence of the deprivation in rural areas is to be found in the Card, et al study (1963). This survey conducted in the Lesser Slave Lake area attempted to give an accurate picture of the conditions facing the Metis in the hope that such knowledge might then be applied in the solution of their problems. In a summary of economic conditions in the region, these investigators report that:

The combined activities of all sectors of the local economy—fishing, forestry, farming, fur-farming, business and government—yielded in 1960, a per capita local wealth or income which was half that of Alberta as a whole. The area's industries have all reached a stage of mature or declining development which is related to the area's natural resource limitations, the withdrawal of industrial firms from the area, the low level of local technology,

an untrained local labor force, and other factors. The business sector is geared to the status quo . . . The occupational structure of the area is truncated at the executive and managerial levels, extensive at the level of unskilled and semi-skilled occupations. Persons of Indian ancestry are confined to this lowest level, with the exception of a few "good workers" who have reached supervisory positions. (p. 387).

Closely related to the economy of the region are the housing conditions in the area. Card, Hirabayashi, and French (1963) give this description of the modal house of the Metis, Treaty Indians, and the mixed or poorer white household:

This is a two or three room house on wood sills. It is made of spruce dimension sheathing and siding, which is unpainted. The floor is one ply spruce board. Lighting is by kerosene lamp. Water, kept in a barrel, is obtained from the "water man" at 25 cents per barrel, or hauled from the lake, a stream, or well. Plumbing is of the outdoor variety, i.e., wash water is thrown out the door, while a small "outhouse" some distance from the house takes care of other needs. The house is heated usually by one stove, for which the chimney is the tin stove pipe continued through the roof. This is the physical plan of the majority of Improvement District 124 households. (p. 220).

A number of reasons have been advanced for the existence of such conditions in rural areas. With respect to the Lac la Biche region, for example, it is suggested that the:

Enroachments of a white society, vast cultural differences, discriminations, segregation, unequal educational opportunities, may all have contributed to the problem which now confronts us. (p. 4).

All observers of the rural scene are in agreement, however, that such conditions are amenable to improvement. Furthermore, it is also agreed that the task of doing so must involve the active co-operation of the people in the areas concerned. Education has been advocated as a major part of the solution. It would seem that the earlier the child is reached, the better are the chances of success. For as noted by Card, Hirabayashi, and French in their report on the Lesser Slave Lake area:

Greatest changes in Metis status may be expected in the youngest generation, providing ways can be found of providing younger Metis with more adequate education and community socialization than they presently receive, and of motivating them and to some degree their parents or households, to achieve status change. (p. 399).

Attitudes and value orientation are also influential factors in determining the socio-economic level a person reaches. While this will be elaborated on later, it is important to note at this time that if attitudes are to be changed, and if people are to acquire a more favorable value orientation, effort in this direction must be begun early.

LANGUAGE

Included among the factors within the language dimension of the environment which effect educational development are debased home language, opportunities for enlarging vocabulary and for developing both elaborated and restricted languages, as well as differing conceptual and grammatical structures of the native language and the language of instruction.

A recent study related to this dimension of the environment was conducted by Card, Regan, Knill and Dockrell in North Eastern Alberta (1966). Included in this report is a section entitled *Language and Learning* by J. O. Regan. In it he describes

an investigation undertaken with 136 grade IX students grouped into three achievement categories. An attempt was made to determine the relationship between school achievement and elaborated and restricted code type homes. A restricted code type home is one which:

... language experiences are narrow. The child not only has a restricted vocabulary, he is less motivated to acquire more facility in language. He learns a limited lexical possibility, learns the words that restrict themselves to the concrete, that include whole classes of differences without these differences being brought into focus; he learns a restricted number of sentence structures, a restricted number of grammatical possibilities. (p. 69).

The elaborated home family is quite different. Regan observes that their days are full of discussion, pointing out and naming of objects; they play with words, with sensitive differences in systems and lexicon. Their uses of language go far beyond the concrete; language is the way one controls the world. A significant association was found between elaborated codes and high achievement, and between restricted codes and low school achievement in North Eastern Alberta.

This study also produced some additional information regarding school success and language experience. Concerning the children's school success, it was concluded that the language the parents speak to each other is more important than the language they speak to their children. If the parents do not speak English to each other, they will not feel comfortable in this language frame and this tends to be transmitted to their children. It is pointed out that:

... when the community sends a child to school from a restricted language code home, the school has a big task ahead. It must seek to introduce a compensation language experience which will open the lexical and syntactical slots. The earlier this is done the better. Certainly the deficiencies must be worked on with an increase of energy each school year it is delayed. (p. 71).

Several studies have been conducted in Alberta which have attempted to determine the effect on performance on intelligence tests, or on school achievement, by children who come from homes where the grammatical and conceptual structure of the language spoken is not necessarily the same as the structure of the language in which the children are instructed. This difference in structure, unlike that referred to in the study previously reviewed, is not due to different socio-economic levels but to the presence of a second language in the home.

One such study was conducted in the County of Beaver by Conn (1964). She classified 211 grade IX pupils as monolinguals or bilinguals on the basis of their answers to a questionnaire. The subjects of this study belonged to several ethnic groups—German, Ukrainian, Norwegian, French and British. The bilinguals, 78 in number, were further subdivided with the 26 who understood a foreign language which was not spoken in the home classified as non-salient bilinguals, since for them the second language was not a salient feature of their lives. The remaining 52 reported a language other than English spoken in their homes and were classified as salient bilinguals. The students were administered the Lower Extension of the **Ingis Tests of English Vocabulary** and the results showed that there was a significant difference in vocabulary proficiency in favor of the monolingual students. It was also found that the salients scored considerably lower than the non-salients. Conn concluded that the significant difference in performance on vocabulary tests was not due only to the factor of bilingualism but also, to an even greater extent, to the way the second language was used in the home. This supports the findings of the study

reported by Regan: namely, that the language the parents speak to each other has a strong influence upon their children's success in school. Conn's findings also confirm those of Reid (1954) and Coull (1956) who observed that English speaking students ranked significantly higher than a group of bilingual students in language and reading tests.

A study conducted in Edmonton with 432 grade VII children—55 of whom were classified as bilingual—was designed to ascertain the effects of a foreign language on performance on selected intelligence tests. (Olson, 1962). It was discovered that verbal tests showed significant differences between the unilingual and the bilingual groups in favor of the unilingual, whereas non-verbal tests showed no significant differences. Similarly, verbal tests showed a significant correlation with language background, whereas non-verbal tests did not. Olson concluded that the degree of significance observed was indicative of the dependence of verbal intelligence scores on language background.

From the above studies it may be concluded that children who enter school without sufficient skill and practice in the language in which they are to be instructed (middle-class English) will be at a disadvantage in achieving success in their school-work. The fact that a child's language structure may be different from that of his teacher may be due to a number of causes. Two such causes have been brought to light in the studies just reviewed. The child may come from a lower-class environment where he has been exposed to a restricted language or he may come from a home where a language other than English is spoken. The existence of such lower-class environments in Alberta has already been revealed in this report, while the presence of foreign language backgrounds is evident from the studies just mentioned. Further information about the probable incidence of non-English speaking backgrounds may be derived from the 1961 Census. Less than 50 percent of Alberta's population were of British Isles stock. Approximately 44 percent of the population gave their ethnic origin as Ukrainian, Scandinavian, Polish, Dutch, German, French, or Native Indian and Eskimo. These data may not be significant when we consider that many such persons may be second or third generation. However, the 1961 Census also showed that 369,625 Albertans named a language other than English as their mother tongue.* Roughly 22 percent of this number resided in the City of Edmonton where 29 percent of the population named a mother tongue other than English. Ukrainian and German accounted for over one-half of this number. At the same time the annual immigration rate is steadily increasing. In 1965, 8,049 immigrants entered Alberta as compared to 6,949 in 1961. Of the number who entered in 1965, between 40 and 45 percent listed a non-English speaking country as their last permanent residence. This does not necessarily mean that this latter group could not speak English. It is very likely that many of them could, but it is highly probable that a language other than English is their mother tongue which they will continue to use, at least in the home, for some time.

Studies conducted with kindergarten classes in the City of Toronto have shown that the success of a pupil in school is greatly influenced by the presence of a language other than English in the home. The Board of Education for the City of Toronto has undertaken two projects to help combat the problem of a second language interfering with a child's chances for success in school. One, is the Main Street School program which is designed to help students commit themselves to a new culture without completely rejecting their own. Emphasis is largely on helping the students speak and

*Mother Tongue—is defined as the language a person first learned in childhood and still understands.

write English. Classes are kept small, about 12 to a class. The program includes field trips and other ways of exploring the environment which facilitate dialogue with the teacher and other students. The other project being carried on in a number of schools is a withdrawal program which consists of taking non-English speaking students from their classes once a day for intensive instruction in English. The groups are small—usually about 6 students—so that individual instruction is almost possible.

When using these data about the language dimension of the environment in Alberta as a basis for educational planning, it is well to remember Regan's observation that:

Highly educated, intelligent people arise from restricted code families. Compensating counteracting qualities may be at the core of their success.
(p. 72).

Undoubtedly the same may be said of some children who come from non-English speaking homes. Obviously, a downward extension of school services would not eliminate the problem completely in the case of children who speak a language other than English as many such students beyond kindergarten age will be continually settling in the Province. However, those children who will be reaching school age in Alberta and who speak a language other than English in the home—and there were over 25,000 in 1961—would probably be helped considerably by a kindergarten program similar to the program of the Toronto Main Street School in which emphasis is placed on helping the children acquire proficiency in the English language—the language in which they will be instructed.

ACHIEVEMENT MOTIVATION

Another dimension of the environment is that of achievement motivation. It includes, for example, the nature of the intellectual and vocational expectations of and for the child, the extent to which school achievement is motivated by parents, and the nature of the models for achievement available.

An interesting study in this area was conducted by Strong (1963). The sample investigated in her study consisted of 1,105 students chosen according to their place of residence in about equal proportions from the City of Edmonton, small towns within a 200 mile radius of the urban centre, and farms located near these small towns. Included were 321 students from Edmonton; 323 from the small towns of Beaumont, New Sarepta, Vimy, Westlock, Fawcett, Smith, Kinuso, and Faust; and 461 from farms. Strong hypothesized that different segments of various social categories have dissimilar value orientations related to achievement, and thereby influence their individual members in the direction of acquiring personal motives and orientations which will or will not be instrumental for achievement in this society. The social categories which she thought might be of significance in affecting ambition patterns and attitudes toward goals, and which she selected for study, were social class, ethnic and religious groupings, and place of residence. The testing instruments used were the **Achievement Orientation Test** designed around the three dominant value orientations (activistic-passivistic, present-future, and individualistic-collectivistic), the **Name Occupations Test**, and the **Twenty Statements Test**. The principal finding according to Strong was:

... that achievement orientation and levels of aspiration are highly related to the social class position of the individual. The study established a strong positive relationship between social class membership and the possession of complementary values necessary for achievement, saliency of knowledge

about the occupational structure of society; and levels of education and occupational aspiration. The sample of students tested responded in a consistent pattern of high achievement orientation and high levels of aspiration by students with fathers of high status position, graduating downwards in values necessary for achieving behavior and levels of aspiration with each lower strata of social standing: (p. 158).

A second generalization drawn from this study was that of the various social categories studied, social class is the overriding influence. That is, the influence of religious or ethnic groups, or place of residence, fade in importance when persons of similar social class in these groups are compared with each other. As an example, Strong cites that although it was expected that Protestants would aspire higher than Catholics, there was no significant difference between church membership when social class was held constant.

However, there were two major exceptions to the second generalization. For Indians and Metis in the sample, ethnicity did make a difference in their achievement scores and choice of occupation. They were significantly lower than other students when compared by class standing. The second major exception to the influence of social class was the place of residence. Middle and upper-class young people from the city made significantly higher occupational choices than did their counterparts from small towns and farms. Although they did not differ in achievement value, orientation, or saliency of knowledge about the occupational structure, they tended to choose higher prestige jobs when asked to select an occupation they would like to have as adults.

The findings of the study conducted by Card, Hirabayashi, and French (1963) among the Metis in the Lesser Slave Lake area are not entirely in agreement with the latter finding reported by Strong. They report that the Metis were:

... inadequately socialized into values which would lead to success in the larger society. They appeared to be passivistic, dependent, more attached to their homes, and reluctant to do much planning, i.e., were present oriented. (p. 396).

These investigators maintain that social class rather than ethnicity seemed the major factor in these characteristics. A possible explanation for the existence of lower-class values among the Metis may be found in the following statement:

Metis appeared to have adopted the lower class values of the larger society. Their motivational pattern, and to a large extent their entire situation in Improvement District 124 was apparently due to socialization into lower class norms and values learned from association with whites who are themselves lower class, not to retention of aboriginal culture. On many of the dimensions examined in this study, it was found the Metis is quite different from the Indian so that Indian traits could not be considered an important factor in accounting for Metis values and motivations. (p. 396).

Further evidence to support this explanation is given elsewhere in their report. They describe tests given to those Indians who had most contact with whites—the reservation Indians—which showed that these Indians were very similar to the Metis in their lack of achievement motivation, while those who were sheltered in the residential school, and who tended to meet middle class whites, scored about as well on all of these tests as did the whites.

Other findings of this study showed that the Metis had very little knowledge about the adult world of work. Their scores were below both Indians and whites.

Dockrell (Card, Dockrell, Knill, and Regan, 1966) reports a study entitled **Motivation for Learning** conducted in North Eastern Alberta which had a slightly different purpose from the two studies referred to above. The **Achievement-Orientation Test**, used in the two previous studies, was also used by Dockrell for the purpose of relating pupil held values to their level of achievement. The sample for this study consisted of grade IX students who were divided into high, average, and low achievers on the basis of their standing on grade IX departmental examinations.

It was observed that high achieving students, both boys and girls, described themselves as being active. That is, they felt independent of group conformity. They believed they could take life into their own hands and mold it to their own liking and benefit. On the individual-collective dimension again there was a difference. High achievers, both boys and girls, described themselves as independent in orientation and low achievers described themselves as being collectively oriented. The low achievers were more inclined to abide by the group's wishes and to maintain close physical and affectional ties with the family, while the high achievers were more encouraged to seek advanced educational and job opportunities even though it meant moving away from home and severing family ties. The study found no association between high marks and future orientation for girls, and for boys the strongest association was between medium future orientation and high marks, and high future orientation and medium marks. Dockrell attempts to explain this latter finding by attributing it to our current cultural patterns. Girls expect to marry and job plans are secondary. The girl who is a good student does not see academic success as relevant to her goals. The high future orientation on the part of middle achievers may, according to Dockrell, be an indication of a lack of realism.

It may also mean that some youngsters who are really interested in the long term don't see the relevance of school. It could be that few of us at fifteen can see the importance of the subjects taught in school and that we just go along with it as a means to a fairly clearly defined short term end. (p. 57-58).

The data from the study of occupational aspirations indicated that parents who were low in their vocational aspirations had children who were doing poorly in school. On the other hand, high parental aspirations were no guarantee of success as many parents entertained unrealistic aspirations for children who were doing poorly in school.

The studies by Strong (1963), and by Card, Hirabayashi, and French (1963), have shown that achievement motivation is related to the particular social class in which the pupil finds himself—the lower the class status, the lower are the achievement motivation and aspirations of the students. Dockrell has confirmed a relationship between motivation and achievement in school. Thus if children are to be given every opportunity to succeed in school, undesirable attitudes or value orientations must not be allowed to stand in their way. Strong notes that the influence of the school was not sufficient to change social class influence on orientations and aspirations of the students which she tested. There is no evidence, however, that the schools involved actually attempted to bring about such change. The Lac la Biche Divisional Board (1966) proposes that education may indeed be the answer. With reference to the Metis population they state:

Obviously we would not want to change this culture but only certain attitudes within the culture to enhance the plight of these people. The attitudes towards money, liquor, living standards and education must be modified in order to effect any change in their society. Doing this will not impinge on their cultural heritage but only assist in enhancing a rich culture. To effect change in attitude requires education. (p. 15).

They then pose the question, **Whom do we educate?** This question is as difficult as it is important. One answer to this question which is given with increasing frequency is--begin with young child, including parental education as a necessary corollary.

THE WORKING MOTHER

A factor in the educative environment which is of growing importance in Alberta and elsewhere, and which does not lend itself to classification under the three dimensions used in this analysis, is that of the working mother. Two recent studies in this area will be reviewed in an effort to assess the implications for school authorities of this rapidly accelerating change in the pattern of family life.

The first study was conducted by the Family Service Association of Edmonton (1966) with working mothers at the Great Western Garment Company in the City of Edmonton. Its purpose was to determine the nature of child care problems as related to employees of this particular company. Great Western Garment is the largest manufacturing plant in Western Canada employing 1,300 people. About 95 percent of the employees are women, and of this number, it is estimated that 40 percent have children under the age of 6. Staff turnover is a major problem, with the turnover for 1965 being 157 percent. A large proportion of this turnover arises from inadequate day care services for the young children of working mothers who cannot afford to pay high rates for reliable babysitters. In January and February of 1966, 20 percent of the terminations at the plant were due to problems associated with child care.

A questionnaire was drafted to gather information from the employees to determine their present child care arrangements, ages of children under 6, and their possible interest in using a day care facility located near the plant. From the 56 questionnaires returned, the following information was gleaned. Some 24 women reported their husbands cared for their pre-schoolers, 13 had baby sitters, 11 depended on relatives, 2 on other children in the family, and 6 did not indicate who looked after their children during working hours. There was a total of 69 children below age 6 in these 56 families, and 46 of the mothers indicated that they would welcome the establishment of a day care centre near Great Western Garment Company.

The second study was conducted by the Day Care Planning Committee of the Edmonton Welfare Council (1966). This was a survey to determine the number, ages, and areas of residence of pre-primary age children of employed mothers, as well as the geographical areas of employment of mothers. From the Voters' Lists of December 31, 1964 a 10 percent systematic sample was drawn of employed women with children age 5 or less. The sample yielded a count of 512 employed mothers of 711 children age 5 or under. Projections from the 10 percent sample showed, in the City of Edmonton alone, 7110 youngsters age 5 or under whose mothers worked. Single-parent families were in the minority among employed mothers with pre-primary age children. By far the majority were married women who in all likelihood share support of their families with their husbands.

The study stresses that the children of these mothers need better care. In Edmonton, the combined capacity of the sole community supported day care centre, and licensed commercial centres, excluding the unknown number of unlicensed facilities, as of May, 1965, amounted to 379 spaces. This is sufficient care for 5 percent of the 7110 pre-primary age children of employed mothers in Edmonton. In other words, for every 20 pre-primary age youngsters whose mothers work, licensed accommodation is available for one child.

This situation is obviously not confined to Edmonton. According to the 1961 Census, there were 282,350 husband-wife families in Alberta and 68,978 of these families had both husband and wife working. Thus the view that the school will usurp the role of the family in early education if it offers nursery school and kindergarten programs is becoming increasingly untenable. Large numbers of children between the ages of 4 and 6 are already being **educated** during the day by individuals and agencies outside the family, most of whom lack any formal qualifications whatsoever for such a task.

In total, the data examined in this section of the report may be interpreted as showing that environments unfavorable to the fullest development of children do exist in Alberta. Such environments are neither confined to one region nor are they purely an urban phenomenon. Furthermore, these environments are in many respects similar to those in which most of the research studies reported in Section Two were conducted, and to those in which the programs and practices described in Section Three have been undertaken. Thus it seems reasonable to conclude that a need does exist for some form of publicly-supported pre-primary education in this Province. The words **some form** are used intentionally, for different environments pose different problems, and the type of program instituted must be related to the characteristics of the environment in which it is located.

Section Five

CONCLUSIONS AND RECOMMENDATIONS

The initial phase of the Alberta Early Childhood Education Study was designed to accomplish 3 purposes:

1. To provide an analysis of research in early childhood education;
2. To make an assessment of educational effort and programs for children below the age of 6 in Canada and the United States;
3. To offer a diagnosis of prevailing conditions and a prediction of future needs in early childhood education in Alberta.

It is not intended in the final section of the report to repeat the many detailed and specific findings arising from attempts to achieve these purposes. Such information has already been given in Sections Two, Three, and Four. Rather, this section seeks to outline some general conclusions about early childhood education with particular relevance for the Alberta educational scene which the findings of the study will support, and to set forth certain recommendations for action arising therefrom.

CONCLUSIONS

At least 10 major conclusions emerge from this investigation. They are not meant to be jointly-exhaustive nor mutually-exclusive. They are, however, conclusions which appear to be of considerable importance in terms of current practice in education in Alberta.

1. READINESS FOR SCHOOLING CAN BE DEVELOPED AT AN EARLIER AGE THAN PREVIOUSLY SUPPOSED

Improved nutrition, advances in transportation and communication, better health practices, and a generally superior educative environment have increased the pace of maturation in many children to the point where those of age 5 today are about as ready for schooling as were most children of age 6 a generation ago. By extending similar benefits to other children, and through the wise application of our knowledge of teaching and learning and the judicious use of instructional resources, it is highly probable that we can accelerate the intellectual development of children and eventually achieve a substantially higher adult level of intellectual capacity. And to promote his intellectual development need not be distasteful or

harmful to a child. On the contrary, the self-directing interest, the curiosity, the genuine pleasure which will likely emerge from optimizing both his rate and level of intellectual growth should make him a far happier child and a more satisfied adult.

2. ALL CHILDREN CAN PROFIT FROM EARLY SCHOOLING

Obviously the so-called **disadvantaged** child from the very low income home can profit immensely from early schooling. There are, however, many other children regardless of economic background who are disadvantaged in their lives at home: those who receive little love and attention, those whose parents habitually speak a language different from that used in school, those who are pampered, those whose parents have unreasonable expectations for them, those who have little chance to play with other and different children, those who are physically or emotionally handicapped. All these children can be helped by pre-primary education. But the most compelling reason of all for advocating universal opportunity for early childhood education is the promise that it holds for increasing the intellectual capacity of all children, thereby contributing significantly to the joy of childhood and the future well-being of our society.

3. EARLY CHILDHOOD EDUCATION IS INTENDED AS A COMPLEMENT NOT AN ALTERNATIVE TO FAMILY LIFE

Nursery schools and kindergartens must not be thought of as alternatives to the home and to the family. They serve to complement, not to replace the efforts of parents. Children below the age of 6 are ready for planned experiences designed to foster their development. Educators know some of the ways that this can be done through school programs. They are, however, only junior partners in the enterprise with responsibility for a very small part of the young child's daily activities. Nevertheless, early childhood education has an important role to play in developing the potential of young children which should eventually strengthen and enrich family life for generations to come.

4. EARLY CHILDHOOD EDUCATION SHOULD BE AN INTEGRAL PART OF SCHOOLING

Early childhood education is **not pre-school education**. It is a vitally important part of the total educational experience which children and youth should receive under the guidance of the school. Properly conducted it promises significant benefits; poorly conducted it can do more harm than good. Hence it is important that nursery schools and kindergartens be conducted by persons professionally prepared for the task. Moreover, the maximization of benefits requires close articulation of programs of early childhood education with those offered at other stages, particularly in the primary grades. Such articulation is most likely to occur when early childhood education is under the jurisdiction of educational authorities at both the local and provincial levels, rather than welfare agencies or private individuals.

5. EARLY CHILDHOOD EDUCATION HAS CERTAIN UNIQUE OBJECTIVES AND CHARACTERISTICS

A downward extension of school services to children below 6 does not simply imply offering a typical grade I program at an earlier age. To be sure, certain aspects of the traditional grade I program may be studied with profit by many young children. But early childhood education has certain unique objectives and characteristics which set it apart from the full-day three R's emphasis found in most primary grades. It is concerned with providing a balanced program related to the intellectual, emotional, social, and physical growth of children. Included in such a program are activities designed to enlarge the child's span of experience, promote a sense of security and self-respect, facilitate his relations with other children and adults, and foster his physical well-being. Extensive sensori-motor experiences and opportunities for the use of language are stressed. Early childhood education is also characterized by greater flexibility and variability with regard to methods, materials, subject-matter, time, organization, and the like than is commonly found at other levels. In this way it is possible to take into account both individual and group capacities and needs, as well as community expectations, and provide adaptive rather than fixed treatment. Unfortunately, however, some parents and educators are prone to overlook the relative uniqueness of early childhood education and, as a consequence, the educational effort at this level has sometimes been misdirected.

6. OPPORTUNITIES FOR SCHOOLING BEFORE AGE 6 AT PUBLIC EXPENSE IN ALBERTA ARE VASTLY INFERIOR TO THOSE PROVIDED ELSEWHERE

Alberta is the only province in Canada that makes legal provisions for kindergartens but yet does not provide any grants for their support. Hence in Alberta the cost of schooling before age 6, unlike education at other levels and in other fields, must be borne directly by parents. Thus many children, including those who would profit from it most, are denied the benefits of early education. This must be viewed as a serious omission of public educational effort in a Province as wealthy as this one.

7. THERE IS WIDESPREAD SUPPORT FOR EARLY CHILDHOOD EDUCATION IN ALBERTA

The number of children below the age of 6 in this Province presently enrolled in nursery schools and kindergartens attests to the support of parents of young children for such programs. Moreover, if the amount of debate and discussion on kindergartens at meetings of home and school associations, among groups of educators, in various news media, and at school board meetings in recent months may be interpreted as an index of support, then the demand for early childhood education as a public service is indeed growing in Alberta.

8. EQUALIZED AND IMPROVED EDUCATIONAL OPPORTUNITIES ARE REQUIRED FOR MANY YOUNG CHILDREN IN ALBERTA

Environments unfavorable to the fullest development of young children do exist in both the rural and urban areas of Alberta. The provision of programs of early childhood education is one means of counteracting, or at least alleviating, their impact. Such action would be in accord with the time-honored principle of equal educational opportunity. And, in fact, it would provide a measure of equalization when it can be of greatest benefit—during the formative years. But still another step is needed. The level of educational opportunity for all young children should be raised so as to capitalize on their readiness for schooling at an earlier age and promote their maximum intellectual development. Variations in local conditions will undoubtedly give rise to differences in the means used to achieve these two goals. In the process, some new answers will have to be found for old questions about financing and transportation, particularly in sparsely-populated regions.

9. THE TEACHER'S ROLE IS CRUCIAL IN EARLY SCHOOLING

The teacher is the single most important factor in the child's early school experience. For it is the nursery school and kindergarten teacher who must guide his educational development during its period of most rapid and influential growth. She is a model for personality and language development; an agent of approval; and a stimulator and reinforcer of cognition. It is imperative, therefore, that persons cast in this role be broadly educated in a sound professional program. It is also important that they be freed for teaching by the employment of para-professional personnel to assist with routine, non-teaching tasks.

10. PARENT EDUCATION IS AN IMPORTANT ADJUNCT OF EARLY CHILDHOOD EDUCATION

Parent education regarding purposes and programs is a good means of ensuring more lasting benefits from early childhood education. Moreover, in the absence of such programs many of the children who would profit most from early schooling are unlikely to attend.

RECOMMENDATIONS

The findings and conclusions of this study give rise to the following recommendations for upgrading the quality of early childhood education in Alberta:

- 1. THAT SCHOOL SERVICES BE EXTENDED DOWNWARD TO INCLUDE FIVE YEAR OLDS ON A VOLUNTARY BASIS AS AN INTEGRAL PART OF THE EDUCATIONAL SYSTEM IN ALBERTA.**
- 2. THAT THE PROVINCIAL GOVERNMENT PROVIDE FINANCIAL SUPPORT FOR KINDERGARTENS ON A SIMILAR BASIS AS THAT PROVIDED FOR ELEMENTARY AND SECONDARY EDUCATION.**
- 3. THAT THE DEPARTMENT OF EDUCATION AND LARGE URBAN SCHOOL DISTRICTS EXTEND THEIR LEADERSHIP-SERVICE FUNCTION IN THE FIELD OF EARLY CHILDHOOD EDUCATION.**
- 4. THAT JURISDICTION OVER NURSERY SCHOOLS BE TRANSFERRED FROM THE DEPARTMENT OF WELFARE TO THE DEPARTMENT OF EDUCATION.**
- 5. THAT INITIALLY THE MINIMUM QUALIFICATIONS FOR A TEACHING CERTIFICATE IN EARLY CHILDHOOD EDUCATION BE THE SAME AS THOSE FOR ELEMENTARY AND SECONDARY EDUCATION, BUT THAT EVENTUALLY ALL TEACHERS AT THIS LEVEL BE REQUIRED TO HAVE A FOUR-YEAR BACHELOR OF EDUCATION DEGREE OR ITS EQUIVALENT.**
- 6. THAT PRESERVICE AND INSERVICE PROGRAMS OF TEACHER EDUCATION FOR THE PREPARATION OF NURSERY SCHOOL AND KINDERGARTEN PERSONNEL BE EXPANDED.**
- 7. THAT GRADUATE PROGRAMS TO PREPARE LEADERSHIP PERSONNEL IN EARLY CHILDHOOD EDUCATION BE DEVELOPED AT THE UNIVERSITY OF ALBERTA AND THE UNIVERSITY OF CALGARY.**

8. THAT TRAINING COURSES FOR TEACHER-AIDES AND OTHER PARA-PROFESSIONAL PERSONNEL TO BE EMPLOYED AT THE EARLY CHILDHOOD LEVEL BE INSTITUTED IN DISTRICT OR COMMUNITY COLLEGES, INSTITUTES OF TECHNOLOGY AND ART, AND/OR VOCATIONAL HIGH SCHOOLS.
9. THAT A SPECIAL RECRUITMENT PROGRAM BE LAUNCHED, AND AN APPROPRIATE BURSARY SYSTEM DEVELOPED, TO SECURE SUITABLE PERSONS TO PREPARE FOR CAREERS IN EARLY CHILDHOOD EDUCATION.
10. THAT PROVISION BE MADE FOR RESEARCH TO BE CONDUCTED AT BOTH THE PROVINCIAL AND LOCAL LEVELS IN VARIOUS ASPECTS OF EARLY CHILDHOOD EDUCATION IN ORDER TO FACILITATE THE DEVELOPMENT OF OPTIMUM EDUCATIONAL PROGRAMS.
11. THAT CAREFUL ATTENTION BE GIVEN TO THE ARTICULATION OF PROGRAMS IN EARLY CHILDHOOD EDUCATION WITH THOSE OFFERED IN SUBSEQUENT YEARS.
12. THAT A SPECIAL STUDY BE MADE OF WAYS AND MEANS OF HASTENING THE INTRODUCTION OF KINDERGARTENS IN RURAL AREAS.
13. THAT A PLAN BE DEVELOPED FOR THE INCLUSION WITHIN THE NEXT DECADE OF NURSERY SCHOOLS AS AN INTEGRAL PART OF THE REGULAR SYSTEM OF SCHOOLING IN ALBERTA.

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B. Calgary

1. Auspices	No. of Schools
Church	12
Cooperative	15
Private	9
Community Associations	16
Other	4
Total	56
2. Denomination	
Non Sectarian	42
Roman Catholic	1
Anglican	4
United Church	4
Other	4
Not Given	1
Total	56
3. Accommodation	
School Building	5
Church Hall or Basement	20
Other Public Rooms	5
Private Home	7
Community Hall	19
Other	1
Not Given	1
Total	58
4. Sessions	
A.M. Only	21
P.M. Only	3
A.M. and P.M.	28
Full Day	5
Not Given	2
Total	59*

*Three reported half day sessions as well as full day sessions.

5. Length of Session	No. of Schools
2 Hours	21
2½ Hours	54
More Than 2½ Hours	3
Total	78

Full Day	
4½ Hours	1
8 Hours	2
8½ Hours	1
Total	4

6. Days Per Week

5 Days	54
Not Given	2
Total	56

7. Enrolment

Age	Boys	Girls	Total
3	44	50	94
4	206	199	405
5	1,216	1,160	2,376
6	4	1	5
7 and Over	1	1	2
Total	1,471	1,411	2,882

8. Fees Per Month

$fx = 410.5$

Median \$8.4

Mean \$8.2

Dollars	No. of Schools
6	1
7	10
8	27
9	5
10	4
11	
12	2
13	1
Not Given	6
Total	56

Full Day Dollars	No. of Schools
34	1
35	1
36	1
Total	3

C. Other Cities and Towns

Includes: Sherwood Park 4, Red Deer 6, Medicine Hat 5, Ponoka 2, Camrose 2
(Total 23)

		No. of Schools
1. Auspices		
Church		4
Private		17
Other		2
Total		23
2. Denomination		
Non Sectarian		19
Other		4
Total		23
3. Accommodation		
Church Hall or Basement		10
Private Home		10
Other Public Rooms		2
Other		1
Total		23
4. Sessions		
A.M. Only		7
P.M. Only		7
A.M. and P.M.		9
Full Day		
Total		23
5. Length of Session		
Less Than 2 Hours		1
Two Hours		26
2½ Hours		5
Total		32
6. Days Per Week		No. of Schools
2 Days		1
3 Days		6
4 Days		2
5 Days		14
Total		23

7. Enrolment

Age	Boys	Girls	Total
3			
4	55	43	98
5	282	281	563
6	22	17	39
7 and Over			
Totals	359	341	700

8. Fees Per Month

fx = 213

Median \$10.00

Mean \$9.30

Dollars	No. of Schools
6	2
7	1
8	5
9	1
10	13
15	1
Total	23

D. Other – Towns and Villages with one only

1. Auspices	No. of Schools
Church	2
Co-operative	5
Private	10
Community Association	1
Other	1
Total	19
2. Denomination	
Non Sectarian	15
Anglican	1
Not Given	3
Total	19
3. Accommodation	
School	4
Church Hall or Basement	6
Other Public Rooms	1
Private Home	4
Community Hall	1
Other	2
Not Given	1
Total	19

4. Sessions

A.M. Only	10
P.M. Only	3
A.M. and P.M.	5
Full Day	1
Total	19

5. Length of Session

No. of Schools

2 Hours	6
2½ Hours	16
More Than 2½ Hours	1
Total	23

Full Day

4 Hours	1
---------------	---

6. Days Per Week

1 Day	2
2 Days	.
3 Days	3
4 Days	1
5 Days	13
Total	19

7. Enrolment

Age	Boys	Girls	Total
4	30	29	59
5	225	201	426
6			
7 and Over			
Total	255	230	485

8. Fees Per Month

fx = 148.5

Median \$8.25

Mean \$8.25

Dollars

No. of Schools

Less Than \$1	1
2	1
7	3
8	4
9	1
10	5
11	1
12	2
Total	18

CANADIAN TEACHERS' FEDERATION
FÉDÉRATION CANADIENNE DES ENSEIGNANTES ET DES ENSEIGNANTS
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OTTAWA K2P 1B4

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